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A publication of the VIRGINIA NATIVE PLANT SOCIETY

1990 Virginia Wildflower of the Year Brochure

Spring beauty, *Claytonia virginica*, graces the second Virginia Wildflower of the Year brochure. The brochure emphasizes spring beauty's botanical characteristics, habitat and range, history, and cultivation requirements. It is intended to aid in spreading information on native plants to the public, as well as promote the VNPS.

Every member receives a copy with this issue of the *Bulletin*. Organizations with which the Society exchanges newsletters also have been given brochures. Extra copies are available for distribution at chapter activities, nature centers, libraries, and science museums. To obtain more brochures, write to VNPS-Virginia Wildflower of the Year, P.O. Box 844, Annandale, VA 22003.

VNPS Slide Program Available

"From Beach to Blue Ridge: Habitats of Virginia's Native Plants," a VNPS slide program, is available to members for use with garden clubs, school groups, and other organizations interested in Virginia's diverse habitats and their distinctive plants.

The program prepared by Education Chair Cris Fleming and shown for the first time at the 1989 VNPS annual meeting, covers fifteen habitats across the coastal plain, piedmont, and mountains. Representative species of each area are illustrated by slides taken from the Society's collection or donated by Cris Fleming, Hal Horwitz, Kent Minichiello, and Jim O'Donnell.

The presentation runs about twenty minutes. Slides are sent in a carousel, with a script or a self-activating tape. For more information or to reserve the program, write to Cris Fleming at VNPS, P.O. Box 844, Annandale, VA 22003.

VIRGINIA'S RARE PLANTS

VNPS Winter Workshop '90

Sat. March 17 - University of Richmond

An exciting opportunity for VNPS members and the interested public to learn about Virginia's rare, threatened, and endangered plants.

How these plants are monitored

Why plants are placed in different ranks

What citizens can do to help protect species and their habitats

Directions and a schedule have been sent to VNPS members in a special mailing. Contact Cris Fleming 301 657-9289 to register.

**Virginia Wildflower
Celebration '90
Two Activity Filled Months
See page 3 for calendar.**

Special Presentations for Virginia Wildflower Celebration

In recognition of Virginia Wildflower Celebration '90, two chapters will host special speakers. On April 5th at 8 p.m., Bob McCartney will speak on native plants of the Southeast. McCartney, a former Colonial Williamsburg horticulturist and co-owner of Woodlanders nursery, Aiken SC, is known for his field work with native plants. John Clayton Chapter hosts the program in Small Hall, Room 109 on the campus of the College of William and Mary.

Blue Ridge Chapter welcomes Dr. John Ebinger, Professor of Botany at Eastern Illinois University, who will present a program on mountain laurel. Dr. Ebinger has done extensive research at the Connecticut Agricultural Experimental Station on *kalmias*. The program and a reception will take place at Virginia Western Community College, Business-Science Auditorium on Apr. 13 at 7 p.m.

General Assembly Report

An amendment passed in the late session of the 1989 Virginia General Assembly granted exemptions to the Freedom of Information Act to several agencies. Of particular note to Society members is the exemption granted to the Department of Conservation and Recreation (DCR) and the Department of Agriculture and Consumer Services (VDACS) that allows these agencies to withhold the locations of rare and endangered species where there is concern that releasing this information could cause harm to the species.

During the same legislative session, the Natural Areas Preserves Act was passed. This act adds a category of "candidate species" to the state's Endangered Plant and Insect Species Act. It formally directs the DCR to operate a Natural Heritage Program. It establishes a Natural Area Preservation Fund for acquiring state owned natural areas, and authorizes the dedication of Natural Area Preserves by the DCR Director. Lands owned by any public agency or private citizen may be dedicated (subject to the acceptance of the Director). Once dedicated, these lands must be managed to protect the habitat or rare species present on the Preserve.

Chris Clampitt

FROM THE PRESIDENT

Spring beauties are on their way! Our **Virginia Wildflower of the Year** moves us into Virginia Wildflower Celebration '90, giving us two months to share the delight of our spring ephemerals. In the midst of our celebration, Earth Day 1990 brings national attention to our beautiful, stressed earth. What do you plan for Earth Day? A hike along a trail of wildflowers? Clearing debris from a stream? Planting native trees? Whatever your plans, let them be part of your ongoing, intense care for the habitat of our native plants in Virginia. The policy on habitats and ecological relationships adopted by the VNPS board in 1988 (below) states our philosophy.

The **Registry Program** recently established by VNPS helps to protect private land containing native plants not yet rare, threatened, or endangered. It can be one of your tools for protection of habitat.

Another way is activating your conservation efforts. While VNPS enjoys a strong horticultural reputation, we do need to increase our knowledge and effectiveness regarding legislation. Whether concerned with wetlands, forests, zoning, growth management, water or air issues, we need solid education about issues and shrewd, persistent use of our efforts. What do you know about "mitigation," "no net loss of wetlands," restoration or recreation of marshes, bogs, swamps? Do wetlands survive when created by man? "Down-zoning" and "vesting" are current issues. Through membership in the Conservation Council of Virginia and cooperation with state and federal agencies, VNPS has participated in some excellent protection efforts. The Winter Workshop on March 17th will cover habitat protection through VDACS, the Virginia Natural Heritage Program, and The Nature Conservancy, and your role.

Huntley Meadows, the Thompson Wildlife Management Area, Jefferson or George Washington National Forest, or dense development, waste management, pollution -- Whatever your choice of issues, YOU are needed to speak for our silent native plant friends and the habitat they require. Your elected representatives and government administrators need to hear from you.

As our Virginia Wildflower Celebration '90 begins, it is time to enjoy wildflower garden tours and scheduled hikes to choice natural sites. There will be opportunities also for you to purchase chapter propagated wildflowers. Not only will your garden be richer, but the education programs of VNPS will be nurtured.

Education. Appreciation. Protection. A natural progression toward Virginia native plants in your future.

Nicky Staunton

VNPS POLICY ON HABITAT

The Virginia Native Plant Society shall promote the recognition of the importance of habitats and ecological relationships of Virginia native plants as well as their beauty, rarity, use, classification, and other interesting features. This emphasis on habitat shall permeate all the activities of the VNPS including the membership brochure, articles in the *Bulletin*, field trips, slide shows, conservation activities, education programs, Wildflower Celebration, Wildflower of the Year, plant rescues, propagation and sales, and all public events.

Each plant species has its own requirements for soil type, amount of available moisture, temperature range, and amount of sunlight, and it grows only in a particular habitat providing those needs. Each type of habitat, such as a freshwater marsh or a deciduous forest, supports a community of plants and animals that are dependent upon the health of that habitat. Therefore, in order to preserve a species, we need to preserve its natural habitat.

The *Bulletin*

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P.O. Box 844, Annandale, VA 22003

Nicky Staunton, President
Virginia Klara Nathan, Editor
Barbara Stewart, Artist

Original material contained in the *Bulletin* may be reprinted, provided credit is given to the author, if named. Readers are invited to send letters, news items, or original articles for the editor's consideration. They should be typed (double spaced, please) or sent as a text file on a 5 1/4 inch floppy disk to the Editor at Route 3 Box 119-F, Floyd, VA 24091.

The deadline for the next issue is April 10.

New Editor

Beginning with this issue, the VNPS welcomes Virginia Klara Nathan as editor of the *Bulletin*, which is the key connection between the Society and its members, and in addition, an invaluable means of carrying VNPS concerns to others.

For several years, Virginia was a writer and editor for the Virginia Cooperative Extension Service at Virginia Tech. Now freelancing, she continues to count the Extension Service among her clients. An active member of the Blue Ridge Wildflower Society since 1985, she has been a frequent contributor to the chapter's newsletter, and for two years she served on its publications committee.

I hope all VNPS members will give Virginia encouragement and support, as well as comments and suggestions as to how the *Bulletin* can serve you better. And as always, your contributions add a distinctive dimension to this newsletter.

Mary Pockman
Publications Chair

Virginia Wildflower Celebration 1990



Throughout April and May, chapters of the Virginia Native Plant Society host walks and special talks, conduct plant sales, and take field trips to celebrate the spring wildflowers and share enthusiasm for native species among themselves and the interested public. This year spring beauty, *Claytonia virginica*, plays the starring role as Virginia Wildflower of the Year. We are sure to see many of them as well as other native plants, both common and rare, as we explore and enjoy the diversity of the habitats in the Commonwealth. Use phone numbers provided in activity descriptions for reservations, fees, and additional information on events.



Calendar of Events

March 31 Smith Mt. Lake State Park. 10 a.m. Field trip and plant survey. Coordinator - Bob Eubank (Blue Ridge) 804 239-9756.

March 31 Switzer Dam Walk. 10 a.m. Coordinator - Diane Holsinger (Shenandoah) 703 896-7132.

Throughout April

Field trips on private land not normally accessible. Jeanne Sandstrom (Piedmont) 703 777-2158 for details.

April 1 Mormons River Walk. 1:30 p.m. Call Katherine Malmquist (Jefferson) 804 924-3384 for more information.

April 3 Fox Mill Run Swamp. 1:30 p.m. Donna Ware (John Clayton) 804 221-2213 for reservations.

April 8 Blackwater Creek Walk. 2 p.m. Led by Dot Bliss (Blue Ridge) 804 845-5665.

April 13 Dr. John Ebinger speaking on *Kalmias*. VWCC, Roanoke. 7 p.m. FMI Bruce Boteler (Blue Ridge) 703 774-4072.

April 14 Crockett's Woods. 10 a.m. Call Joyce Williams (John Clayton) 804 693-4417 to make a reservation.

April 14 Dragon's Tooth Walk. 10 a.m. Bobby Toler (Blue Ridge) 703 366-0239.

April 15 Mount Crawford and Verona. 10 a.m. Coordinator - Jacob Kagey (Shenandoah) 703 828-3297.

Earth Day 1990 Observances

April 21 and April 22

April 21 Chessie Nature Trail. 10 a.m. Dot Bliss (Blue Ridge) 804 845-5665.

April 21 Loudon County Earth Day Events. Call Jeanne Sandstrom (Piedmont) 703 777-2158 for schedule.

April 21-22 Earth Day Events at Airlie, Fauquier County. Mary Ann Gibbons (Piedmont) 703 253-5409 for schedule.

April 22 Earth Day Festival. Hill and Dale Park, Harrisonburg. Shenandoah Chapter will sponsor guided walks and art auction.

April 22 Earth Day Festivities. South Run District Park, Springfield 1 p.m. Co-sponsored by Potowmack Chapter. Demonstrations, displays, information, and performances.

April 22 Monticello and Rivanna River Walk and Clean-up. 2 p.m. Call Katherine Malmquist (Jefferson) 804 924-3384 for more information.

April 22 Earth Day Celebration and native tree planting ceremony. Brentsville Presbyterian Church. 11 a.m. Jenifer Bradford (Prince William) 703 594-3422.

April 22 Ball's Bluff Walk. 1 p.m. Co-sponsored by Potowmack and Prince William Chapters. Reservations needed. Marion Blois Lobstein 703 536-7150.

April 22 Oatlands and other Loudon County Wildflower walks. Jeanne Sandstrom (Piedmont) 703 777-2158.

April 23-26 Charlottesville Historic Garden Week. 804 973-7405.

April 28 Potowmack Chapter Members' Gardens Tour and Greenspring Farm Park Native Plants Trail. Dorna Kreitz (Potowmack) 703 938-6248 for times.

April 28 Canoe trip at Leesylvania State Park. 4 p.m. Call Veterans Park 703 491-2183 for reservations. FMI Alden Bradford (Prince William) 703 594-3422.

April 28-29 Spring Wildflower Pilgrimage. Science Museum of Western Virginia, Roanoke. 703 342-5710

April 28-29 Prince William Members' Gardens Tours. Call Helen Walter 703 754-8806 for details.

April 29 Trillium Walk. 2 p.m. Blue Ridge Parkway, milepost 74.7. Dot Bliss (Blue Ridge) 804 845-5665 for details.

May 5 Bluffs of Maury Wildflower Walk. 10 a.m. Coordinators - Hugh and Bunny Smith (Blue Ridge) 703 774-8392.

May 6 Walk at New Regional County Park, Albermarl Co. 2 p.m. Katherine Malmquist (Jefferson) 804 924-3384.

May 10 Strawberry Plains Ravine, The College of William and Mary. 9:30 a.m. For reservations, call Virginia Crouch (John Clayton) 804 221-2213.

May 12 Canoe trip at Leesylvania State Park. 4 p.m. Call Veterans Park 703 491-2183 for reservations. FMI Alden Bradford (Prince William) 703 594-3422.

May 12 Prince William Annual Plant Sale at Bethel Lutheran Church, Manassas. 9 a.m. to noon.

May 12 Blue Ridge Annual Plant Sale on Mill Mountain, Roanoke. 11 a.m. to 2 p.m. (Rain date May 19).

May 13 Trillium Walk. Rock Castle Creek Gorge, Blue Ridge Parkway. 10 a.m. Bob Tuggle (Blue Ridge) 703 647-1205.

May 13 Potowmack Chapter Semi-annual Plant Sale along with May Festival on Mother's Day at Green Spring Farm Park, Alexandria.

May 18-20 Wintergreen Wildflower Symposium. Call Wintergreen 804 325-2200 for more information.

May 19 Henricus Park, Chesterfield Co. Guided walk by park naturalist Mark Battista. 9 a.m. Robert Wright (Pocahontas) 804 233-7138.

May 19 Chesapeake Nature Trail, New Kent County. 10 a.m. Contact Patrick Baldwin (John Clayton) 804 838-2064 to make a reservation.

May 20 Appomattox Historical Park and Holiday Lake Wildflower Walk. 2 p.m. Frank Coffey (Blue Ridge) 804 332-5757.

May 26 Canoe trip at Mason Nick Wildlife Refuge. 9 a.m. Call Veterans Park 703 491-2183 for reservations. FMI Alden Bradford (Prince William) 703 594-3422.

May 26 Hoover Camp, Shenandoah National Park. 9 a.m. Jacob Kagey (Shenandoah) 703 828-3297.

VIRGINIA'S RAREST PLANTS

Cypripedium reginae, showy lady's-slipper

Few Virginia wildflowers approach the beauty of the largest native Virginia lady's slipper, *Cypripedium reginae*. This member of the orchid family, Orchidaceae, has moccasin-shaped, pink and white flowers the size of hens' eggs, leaving no doubts that the common name, showy lady's slipper, is well-suited. In early summer, bunches of leafy stems, up to a yard tall, are topped by the beautiful blossoms.

Cypripedium reginae is a wetland species, occurring most commonly in areas that remain wet all year such as spring seeps, and bogs. It is not surprising this species is the state flower of Minnesota, known as the land of ten thousand lakes. Though the plants occur in deeply-shaded areas, they appear to bloom most profusely when the habitat is somewhat open.



Cypripedium reginae
Illustrated by Michael Lipford

This orchid is primarily a northern species and in Virginia the species is as rare as it is beautiful. Currently only two extant sites are known, one in the Massanutten Mountains, the other in the southwest corner of the Commonwealth. Other sites in Virginia, once known, have since been extirpated due to degradation of the species' wetland habitat. Another threat to this species is due to its beauty, which in this case may be its curse. Collectors enthralled with the species have been known to eliminate entire populations.

There is good news for showy lady's slipper in Virginia. Both extant populations are currently receiving protection efforts through the work of The Nature Conservancy and the U.S. Forest Service. If these efforts are successful, the future of *Cypripedium reginae* looks promising in the Commonwealth.

Chris Ludwig - Botanist
Virginia Natural Heritage Program

Coming Events

Wintergreen Symposium

The Wintergreen Wildflower Symposium will be held on May 18-20. Several Jefferson Chapter members will lead hikes and give talks. The chapter will also hold its annual plant sale. Over 70 events are planned including hikes, workshops, and narratives. Cost is \$60 (excludes lodging); discount available to groups. For more information, contact Wildflower Symposium, Wintergreen, VA 22958; 804 325-2200.

Wildflower Pilgrimage In Gatlinburg

The 40th annual Wildflower Pilgrimage in Gatlinburg will be held April 26-28. Activities include hikes, motorcades, photographic tours, workshops, bird walks, illustrated talks, and overnight hikes to Mt. LeConte. For additional information, write or call Great Smoky Mountains National Park, Gatlinburg, TN 37737; 615 436-5615. To obtain an accommodations directory, dial 1-800-251-9868, or write Dept. W.P., Box 257, Gatlinburg, TN 37738.

Wildflower Photography Workshops

The National Wildflower Research Center and Eastman Kodak Company are co-sponsoring wildflower photography lectures and workshops throughout North America this spring and summer. Participants can learn the

art of photographing wildflowers at workshops taught by John D. Smithers, a nationally recognized wildflower photographer and audio-visual producer.

The nearest lecture/workshop series is at the National Arboretum in Washington, DC. The lecture (open to the public) will be held Thursday evening, May 10, followed by the workshop on May 12 and 13. Call the Arboretum's Educational Dept; 202 475-4815 for fees and times.

If the dates in Washington don't suit you, other workshops in the East are: May 17 (lecture), 19 and 20 (workshop), Holden Arboretum, Mentor OH; phone 216 946-4400 for details; June 22, 23 and 24, and June 29, 30 and July 1, Bowman's Hill Wildflower Preserve, Washington Crossing, PA; 215 862-2924 for details. For other locations and dates, contact the National Wildflower Research Center; 512 929-3600.

UVA Summer Field Studies

The schedule for 1990 Summer Field Studies at Blandy Experimental Farm and Orland E. White Arboretum has been released. Last year several VNPS members enrolled in the Field Botany course and gave it high marks. This year, course offerings include: Field Botany, June 13 to July 13; Fundamentals of Ecology, July 17 to August 10; and Advanced Ecology, July 17 to August 10. The application deadline is May 1. Contact Michael A.

Bowers, Assistant Professor, Summer Research Program, Blandy Experimental Farm, P.O. Box 175, Boyce, VA 22620; 703 837-1758 for course descriptions.

National Garden Week

1990 National Garden Week is April 8-14. Many public gardens celebrate with educational programs, demonstrations, and festivals. Watch for events in your area, or help organize one. National Garden Bureau, 1311 Butterfield Road, Suite 310, Downers Grove, IL 60515; 708 963-0770 will provide information to help you.

Writers' Workshop

The third annual Wildbranch Workshop in Natural History and Environmental Writing will be held at Sterling College, Craftsbury Common, Vermont, June 24-30. The workshop offers classes, lectures, discussion groups, and readings in the craft of writing about the outdoors. Part of each day, participants work with residential faculty members on writing, reading, and shared critiques. The rest of the day consists of other classes and workshops. The program includes environmental journalism, natural history writing, and conservation writing. Detailed course descriptions will be sent to those requesting an application. Send inquiries to Sterling College, P.O. Box 72, Craftsbury Common, VT 05827.

Finding Wildflowers in Virginia

Yankee Crossing

Situated within a large stand of Eastern hemlock, the Yankee Railroad Crossing is one of my favorite scenic stops along the Blue Ridge Parkway in Virginia. Located approximately at Milepost 37, this area is often missed by travelers; because it doesn't overlook the Shenandoah Valley, they rarely stop.

At this location one finds a small replica of the type of railroad trestle that was commonly used years ago. Beginning at the trestle is a somewhat steep yet easy to traverse circular path leading up to a spectacular waterfall.

With a constant roar, the water plummets some 25 feet over several massive boulders before creating a small but rapid moving stream which flows down the mountainside to the road's edge. The cool shallow water of the stream makes an ideal place for the kids to play and explore. Mine enjoy searching for lizards, salamanders, crayfish, and small snakes.



The habitat at Yankee Crossing can be described as cool, damp, and well shaded with wonderfully rich moist soil supporting a multiplicity of trees and wildflowers.

Although a variety of native plants bloom here until late fall, I enjoy the spring flowers most. In April and May I have found golden alexanders, sweet white violet, and the stately Canada violet with the distinguishing purple color on the opposite side of the petals. As one ascends the path, there are several patches of Canada mayflower near the stream's edge. Jack-in-the-pulpit, Indian cucumber root, and large flowering bellwort are also easily found.

In spring, near the waterfall, a profusion of red erect trillium creates a striking picture amongst a large bed of rocks. These wildflowers can be a photographer's delight when the sun's rays break through the dense foliage, lighting up the dark red petals as if on fire, and highlighting their intricate network of veins.

Descending on the path, by way of a small bridge over the stream, one finds an impressive colony of pink lady's slipper. Extending from the trestle, there is another small trail that appears to have been made by people constantly walking over the area. On this trail can be found blue cohosh, Virginia waterleaf, and Dutchman's breeches. One can also find squaw root beginning to emerge.

In a well-shaded area below the trestle, baneberry, wild sarsaparilla, and speckled wood lily are abundant. Just a few yards along the Parkway, lousewort, carrion flower, and spring beauty can be found growing in large numbers. Also in this location are literally hundreds of Dutchman's breeches covering the



ground, reminding me of massive colonies of mayapple. Truly, a panorama of color and beauty surrounds one at every level.

During July and August, bunchflower, green coneflower, horsebalm, clearweed, spikenard, rattlesnake plantain, Deptford pink, Indian pipe, and a sunflower species unknown to me can be encountered. Unfortunately, the path leading from the trestle becomes literally overgrown with the lush growth of stinging nettles making it virtually impassible in late summer.

Although I have discovered no rare plant species, enticing cool shaded areas, the sound of running water and singing birds, and a large variety of trees and wildflowers make Yankee Railroad Crossing an excellent location to take a walk, have a picnic, or just simply relax.

Patrick Baldwin
John Clayton Chapter

FOR YOUR LIBRARY

State of the World 1990 has been released from Worldwatch Institute (1776 Massachusetts Avenue NW, Washington, DC 20036; \$18.95 hardcover, \$9.95 paperback). The desktop guide analyzes economic and environmental issues from a global perspective. In fall, the producers of the public television *Nova* series, will present a 10-part series based on *State of the World 1990*.

Jack Kramer's new book, *The World Wildlife Fund Book of Orchids*, (Abbeville Press NY, 1989; \$60.00 hardcover) is being advertised as "the most complete book on orchids." The

text covers the history, botany, and cultivation of orchids as well as the legends and folklore associated with them. Dr. Mark J. Plotkin, WWF plant conservation specialist, discusses the survival of the plants in the wild.

Considered the first field guide to our native plants, *How to Know the Wild Flowers* by Mrs. William Starr Dana (Houghton Mifflin Co.; \$19.95) has been revised and republished. The original, published in 1893, sold out a few days after printing. The new edition contains the original text (only plant names have been updated) plus high quality reproductions of the drawings by Marion

Satterlee. Collectors may want this classic.

Subtitled 'A Hiker's Guide to Common Plants and Animals of Marshes, Bogs, and Swamps', *Walking the Wetlands* by Janet Lyons and Sandra Jordan (John Wiley & Sons, 1989; \$10.95 softcover) is an informative guide to wetlands life in the U.S. Primarily a guide to East Coast wetlands, it includes full-page line drawings along with written descriptions of 100 living things, both flora and fauna. The text is light and informal. A listing of U.S. national parks and refuges with major wetlands is included.

Endangered Species Lists: A Guide

Words such as rare, threatened, and endangered can be confusing in regard to the status of native plants. **VNPS Winter Workshop '90 - Virginia's Rare Plants** focuses on endangered species and the protection they receive in Virginia. The workshop provides an opportunity to learn why and how Virginia's plants are placed in different ranks. The following article from the *New England Wild Flower Newsletter* Fall/Winter 1989 (reprinted with permission) gives an introduction to the terms.

The term 'endangered' has been applied to a number of plants over the years, and the multiplicity of endangered species lists has caused much confusion to the lay person who attempts to determine the status of a rare plant in the wild.

Generally, plants are endangered on three levels--nationally, regionally, or state-wide. If a species is in danger of extinction throughout all or a significant portion of its range throughout the entire U.S., it is said to be nationally endangered. Another species, common further south or west, but endangered in New England, would be considered regionally endangered. Similarly, a state endangered plant might be endangered in Massachusetts, but common in other states to the north or south. A 'threatened' species is one that is considered likely to become endangered in the near future if its numbers continue to decline.

Another term that is also used is 'special concern.' This generally indicates that there are few populations or plants and that the species is being monitored to determine if endangered or threatened status will be necessary in the future. 'Rare' is more generic, having been applied to the entire range of rarity from endangered to uncommon, but usually the term is simply used to denote that the plants are in fact rare.

To add to the confusion, legal protection is afforded on the national level by the U.S. Endangered Species Act of 1973. Congress reauthorizes the Act every two years, but perhaps even more importantly, appropriates money each year to fund its various provisions. Over 2500 species of plants have been proposed by botanists for possible listing under the Act. After an arduous review process by the U.S. Fish and Wildlife Service, a species may be listed as federally endangered or threatened. The U.S. Fish and Wildlife Service has enough data to warrant listing 950 species of plants and animals, but has resources to list only about 50 total species each year. Currently just over 200 plant species are being given legal protection under the Act.

The Act provides protection by prohibiting interstate commerce in a federally listed species and, very importantly, prohibits any federal agency from giving funds or aid to any project

that would harm listed species. This explains the controversy some years past over the refusal of the federal government to contribute funds to the Dickey-Lincoln Hydroelectric Project, a dam that would have inundated the majority of plants of the Furbish lousewort (*Pedicularis furbishiae*).

Recent amendments to the Act make it illegal not only to remove listed plants from federal land, but also to maliciously damage or destroy any plants. Furthermore this law now reinforces state protection laws by making it illegal to remove, damage, or destroy any listed plant on state or private property in knowing violation of state law or in the course of violating a state criminal trespass law.

Plants on state lists may receive some legal protection, but the protection varies considerably from state to state. In fact, one needs to check carefully to determine if the species on any list have legal standing. One common thread running through all plant laws, both federal and state, is that plants are the property of the landowner.

Thus, when the term endangered is applied to a species, you need to know what list contains the species, with what level the list is concerned, and whether the list affords any legal protection. Always try to find the most recent list, since knowledge of the status of plants in the wild has grown considerably over the last ten years.

Bill Brumback
Propagator, NEWFS

Flora of North America

Until now, the vast amount of information about the diversity of plant life in North America has been scattered in hundreds of different publications. Only the most tireless scientists dug through all the periodicals and books to compile previous research. The *Flora of North America* project intends to remedy this problem.

The project synthesizes current knowledge on vascular plants in North America north of Mexico. The result will be a 12-volume *Flora* and a detailed computerized database. It is intended to aid wildlife managers, foresters, and horticulturists, as well as researchers. Some 17,000 species will be covered, about 7 percent of the world's total species of vascular plants.

The twelve-volume *Flora of North America* will be issued over a ten-year period starting in 1990. The database can be continually added to even after the *Flora* is in print. The project's organizational center is located at the Missouri Botanical Garden.

Nursery Grown Update

Two mail order plant dealers that had been describing the wildflowers they offer as "nursery grown" have dropped that term in their spring catalogues. Both had drawn protests in a campaign to stop the use of "nursery grown" in a context where it may appear to mean "nursery propagated." These nurseries are among those that sell plants experts say cannot now be commercially propagated, such as pink lady's slipper, *Cypripedium acaule*, or cannot be commercially propagated at the bargain prices often quoted, such as large-flowered trillium, *Trillium grandiflorum*.

The campaign against misleading use of "nursery grown" is being coordinated by the Eastern Native Plant Alliance (see last Bulletin). ENPA urges that consumers insist on accurate information about the origin of native plants they buy. Many nurseries and garden centers continue to sell wild collected plants, whether they label plants "nursery grown," say nothing about origin, or, in rare instances, say that plants have been dug from the wild.

James River

With none to see and none to spy,
I sat to watch the James go by --
Upon a root of sycamore,
I saw what others saw before.

And all who know the river's lure
Have recognized a peace so pure --
That on this reckless changing earth
This river represents true worth.

While gliding, sliding to the East,
James does not worry in the least --
He keeps his course, only varies
In the load of weight he carries.

Here strength and gentleness combine
To make a sure and steadfast sign --
He may rage high or slither low,
But faithful James will ever flow.

From **SEASONS** by Elizabeth Doyle
Solomon (Jefferson Chapter)

FROM NEAR AND FAR

Ants Aid Wildflowers

When did you last spend an early June morning sitting motionless on the forest floor, waiting for an ant to carry a bloodroot seed off to its nest? Andrew J. Beattie's description of such a vigil in West Virginia introduces an overview of the contribution of ants to "the spring profusion of shoots and flowers the world over," in the February *Natural History* article, "Ant Plantation."

Ants are attracted by the bloodroot seed's elaiosome, its fleshy, nutrient-rich, outer tissue. Many other species have also been found to be ant-dispersed, in habitats ranging from alpine to tropical. Some also have other means of dispersing seed, such as explosive ejection from many violets. Some in arid regions have elaisomes that, unlike most, are dry and tough. Beattie outlines the benefits to plants of growing on ants' nests; he also touches on the impact of disruption of such close ant-plant relationships.

A Sensible Headline

"Sensitive Plants Need Sensitive People," reads a headline in an issue of *Sego Lily*, the Utah Native Plant Society's newsletter. No, the article's not about the sensitive plant, *Cassia nictitans*, (its leaves respond to a finger's touch). It's about the many vulnerable plant species that urgently need the attention and protection of concerned people.

Gypsy Moth Research

Expected gypsy moth invasions didn't materialize in 1989 in some parts of the Northeast, thanks to a fungus that attacks the caterpillars. Unusually cool, wet conditions may have encouraged the fungus. Though probably a one-time event, the success of the fungus last year raises the possibility of a new biological control for a serious pest.

Weather patterns also affect the moths. Researchers from the University of Connecticut have analyzed weather records and gypsy moth defoliation severity for several years in Massachusetts and Connecticut. They report that a dry fall followed by warm daily minimum temperatures during spring egg hatch favors the moths, increasing defoliation.

Acid Rain Findings

A huge federal study released by the National Acid Precipitation Assessment Program has found that acid rain has turned many lakes and

streams acidic, not only in the Northeast, but also in other areas of the East (and parts of the South and Midwest).

Seventeen percent of forested streams and 9 percent of forested lakes larger than 10 acres in the Appalachians were found to have a pH of 5.5 or lower. Inorganic sulfates, produced by the burning of fossil fuels and deposited by precipitation, were the dominant source of the acidity. But the findings are not all bad. The overall acidification of the nation's waters was less extensive than feared when the research began a decade ago.

Reptile Relics Recovered

Scientists have recently unearthed a collection of nearly 200 fossilized animals in Virginia. The new site, an exposed part of a long rock formation (the Newark supergroup), is in a wooded area 15 miles southwest of Richmond. It represents life in the late Triassic period (240 million to 205 million years ago) when reptiles, smaller than dinosaurs, were the dominant animals. Many of the remains are of mammals' closest reptilian ancestors, the cynodonts. Prior to this discovery, scientists could not explain why cynodont fossils were not found in the Northern Hemisphere. The site also includes several previously unknown creatures.

Wildflower Sod

The newest thing from the quick-and-easy school of meadow gardening. Offered by the Ringer company, Wildflower Carpet™ is sold as rectangular mats of rooted hardy perennials, containing 16 "widely adapted" native species that grow from 6 to 30 inches high. A wildflower garden for those that can't wait.

Another Plant of the Year

The Perennial Plant Association, a group of growers and enthusiasts, has chosen its first "Plant of the Year", and it's a wildflower. Creeping phlox, *Phlox stolonifera*, will be promoted as an adaptable landscape plant in the PPA's educational and marketing programs.

Lesser of Two Evils?

A University of Georgia researcher has suggested goats to control kudzu. (In my county, goats have been hinted at as deterrents to a multiflora rose explosion. Ed.) Judging from their physical impact on an area and their

omnivorous tendencies, the animals would need close supervision to avoid destroying native plants and sensitive habitats.

Light on Latin Names

Amateur botanists puzzled by shifting Latin nomenclature can find entertainment as well as illumination in Stephen Jay Gould's column "Bully for Brontosaurus," in February's *Natural History*. On the way from philately to *Boa constrictor* to a postage stamp-generated debate about the "right" name for a dinosaur, Gould gives a lucid account of the rules that govern zoological nomenclature. The code for botanical names is based on similar principles.

Gould provides a lively history of Brontosaurus vs. Apatosaurus, from a 19th century feud between two paleontologists through the Postal Service's role last year. But though a "brontophile" himself, he emphasizes that "the issue could hardly be more trivial—for the dispute is only about names, not about things," and the point of the rules for naming is to cut through the verbiage and get to the things. For wildflowers too.

Orchid Propagation Problems

Wildflower gardeners read repeatedly that native orchids are not yet commercially propagated. The obstacles to research on orchid propagation are less frequently mentioned. One researcher, Dr. Hubert Ling, summarizes them in a recent New Jersey Native Plant Society newsletter.

Dr. Ling reports that while his lab can routinely grow pink lady's slippers in tissue culture, germination is unsatisfactory and seedling mortality is high. Some of the fringed orchids, *Habenaria* or *latanthera* species, germinate and survive at higher rates, but cultivation problems such as slow growth and winter losses remain.

With all species, a major challenge is obtaining seeds. It's not only that orchid habitat is diminishing. Many orchid species reward their bumblebee pollinators sparingly, and good pollination depends on the presence of other bee-attracting plants blooming nearby at the same time. Moreover, orchid seed pods are attractive deer browse, and the seeds may be viable for only a short time. Finally, steady funding must be found; tissue culture facilities and supplies are expensive.

Mark Your Calendar-- Annual Meeting Scheduled

Saturday, September 22 is the date of the 1990 VNPS Annual Meeting. With Piedmont Chapter as host, the day's activities will begin with a picnic lunch at Airlie, a conference center near Warrenton, VA. Afternoon field trips will explore parts of Airlie's extensive grounds as well as other nearby places. The evening's auction and banquet will be in neighboring Middleburg. Mark your calendars now, and plan to enjoy a day with VNPS members from across the Commonwealth.

Nominations Being Sought

The VNPS Nominating Committee, chaired by Cynthia Long (John Clayton Chapter), is developing a slate of candidates for election to the VNPS Board of Directors and next year's Nominating Committee. The slate will be proposed at the 1990 Annual Meeting on September 22. All VNPS members are invited to send the committee suggestions to consider.

Members may also nominate candidates directly by submitting a petition signed by at least fifteen VNPS members. Nominees must have consented to nomination, and the petition must be received by the Nominating Committee by July 8, 1990. Send suggestions and petitions to Cynthia Long, 105 Bowstring Drive, Williamsburg, VA 23185.

Other members of the Nominating Committee this year are Gay Bailey (Jefferson Chapter), Nancy Hugo (Pocahontas Chapter), Mary Painter (Piedmont Chapter), and Ken Wieringo (Blue Ridge Chapter). Under the VNPS Bylaws, the committee is composed of three members elected by the membership and two appointed by the board.

New Wholesale Source List

An updated list of wholesale nursery sources is now available from VNPS. Like the retail source list, it directs buyers to nurseries that offer propagated plants of species native to Virginia. Most specialize in trees and shrubs.

The wholesale source list is especially valuable as a resource for professionals planning landscape installations that use native species in large numbers. Home gardeners may also find it helpful, though, in identifying for local garden centers some of the nurseries where they may be able to find the plants gardeners want.

For a copy of either list, send a SASE to VNPS-Orders, P.O. Box 844, Annandale, VA 22003.

VNPS 1990 Board

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Blue Ridge	Bruce Boteler
Jefferson	Katherine Malmquist
John Clayton	Fan Williams
Piedmont	Phoebe H. White
Pocahontas	Robert Wright
Potowmack	Liz Smith
Prince William	Alden B. Bradford
Shenandoah	Betty Rossen

Chapter News

Spring Surveys

It's surveying, surveying, surveying for Pocahontas Chapter members. As a result, checklists will be compiled for Powhite Park in Richmond and Huguenot Park in Chesterfield. Flower Dew Hundred near Hopewell, a former private holding recently dedicated as a park, is also being inventoried. This parcel contains undisturbed sites along the James River.

Raising Awareness and Funds

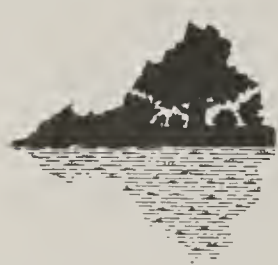
Shenandoah Chapter combines education efforts with fund raising at the Earth Day Festival in Harrisonburg. In addition to a display and guided walks, they plan to auction a wildflower illustration by VNPS member Sharon Morris Kincheloe.

Highly Visible Planting

John Clayton Chapter has been busy planning a large wildflower planting at Colonial Williamsburg. Several million visitors annually will be exposed to the beauty of native plants through this high-visibility landscaping project.

Mobile Meetings

To increase public exposure, Piedmont Chapter has been presenting programs in different locations throughout the recently expanded chapter area. Members have met in Leesburg, Front Royal, Warrenton, and The Plains. Programs have varied, but one of the most popular has been the "Newcombization" of the Membership---help with learning to use the key system in *Newcomb's Wildflower Guide*. Upcoming programs will be held in Winchester featuring Craig Tufts of the National Wildlife Federation, and in Culpeper with Michael Bowers of the Virginia State Arboretum.



Virginia Native Plant Society

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conserving wild flowers and wild places

VNPS Registry Program Update

All chapters of the Virginia Native Plant Society have enthusiastically agreed to participate in our registry program as described in the Winter 1989 *Bulletin*. Each chapter has selected a registrar who will be responsible for the simple paperwork required for the registry of special sites in its area. The form that will be utilized in this procedure is currently being developed and will be available soon. Final approval of each site proposed will rest with the five-member VNPS Registry Committee. Exploration continues on cost and design of a plaque for landowners participating in the registry.

Later this spring a one-day orientation workshop provided by The Nature Conservancy for chapter registrars will be held in Charlottesville.

The following representatives have been selected by the chapters to implement the registry program:

Paul James	Blue Ridge
Ann Regn	Jefferson
Gale Roberts	John Clayton
Jocelyn Alexander	Piedmont
Robert Wright	Pocahontas
Mary Pockman	Potowmack
Elaine Haug	Prince William
Jacob Kagey	Shenandoah

All of us are anxious for the success of the registry program. We hope that by early summer everything will be ready for this very important and challenging opportunity to help preserve outstanding examples of native plants and their habitats.

Dorothy C. Bliss
Registry Committee Chair

VNPS ANNUAL MEETING: September 22, 1990

Make plans now to be at Airlie Conference Center near Warrenton, VA on Saturday, September 22, for the 1990 VNPS Annual Meeting. It is hoped that a one-day format this year may be easier on busy schedules.

Airlie Conference Center is surrounded by 3000 acres of natural habitats. Twenty years ago, the first Earth Day was conceived at Airlie.

Host Piedmont Chapter has planned three nearby tours: Airlie's trails and swan project; "Virginia Natives," nursery of VNPS founder, Mary Painter; and a wet meadowland at Archwood. Members will have an opportunity to visit all three sites.

Evening events including the annual silent auction/social hour, membership meeting, and dinner will take place at the Middleburg Tennis Club. Information regarding overnight accommodations and special self-guided fieldtrips for Sunday, September 23, will be in the next *Bulletin*, along with details such as menu, costs, theme and speaker. The list of nominations for state officers will appear in the August *Bulletin*.

Be certain to put the weekend of September 22 on your calendar now.

GALA AUCTION NEEDS DONATIONS

Plans for the annual silent auction are underway. This event serves as one of our major fund raising projects each year. Now is a good time for each of us as members of the Society to be thinking of what we can contribute for the auction. What will the gift(s) be from you and your chapter? Among the most popular items are home or nursery propagated plants, handmade items, small works of art, and books about plants and nature.

Your support of the Virginia Native Plant Society through donations and participation in the auction is greatly appreciated. If you have any questions or would be willing to assist with the auction, please contact Patrick Baldwin (804) 838-2064 or Karen Sorenson (703) 534 2838.

"Conserving wild flowers and wild places"

Recognizing that "Virginia Native Plant Society" doesn't say it all, the VNPS Board has chosen "conserving wild flowers and wild places" to be added on to the letterhead and wherever a succinct description is appropriate. This issue marks its introduction in the *Bulletin*.

"Conserving" is the concern of all native plant societies, even if it doesn't appear in their names. "Wild flowers" echoes the Society's original name and, with two words instead of one, suggests its interest in trees, shrubs, and vines as well as herbaceous plants. "Wild places" underscores the VNPS policy of emphasizing the importance of native plants to their natural habitats.

MEMBERSHIP FLYER

Enclosed in this issue of the *Bulletin* is a membership flyer. Please give it to someone who would be interested in joining the VNPS. The more members we have in our Society, the more ability we will have to spread our conservation message! Contact Membership Chair Phoebe White (703) 364-3066 if you would like more flyers.

FROM THE PRESIDENT

"Conserving wild flowers and wild places." Our newly selected descriptive phrase is just in time for Virginia Wildflower Celebration 90 and world-wide Earth Day.

Governor Wilder, by signing the Certificate of Recognition for Virginia Wildflower Celebration 90, brings to the attention of all citizens of the Commonwealth the significance of the two month long celebration. Field trips to natural habitats of wildflowers, wildflower garden tours, and sales of propagated (not wild collected) plants are some of the public events of our spring celebration.

Earth Day participation offers another perspective on our Society's interest in the habitats of Virginia's wildflowers, trees and other native plants. VNPS is donating two symbolic gifts to the Commonwealth and ultimately the Earth on this occasion: an *Acer spicatum* to the Virginia State Arboretum at Blandy and a cash contribution to the recently established Natural Area Preservation Fund.

VNPS Earth Day gifts are two of many ways to protect Virginia's trees, which do offer habitat for some of our wildflowers. Trees maintain and improve the quality of life for Earth and all its inhabitants through air and water purification, erosion control, food and shelter for wildlife, cooling/warming effects, sound abatement, and products sustaining mankind (e.g. fruit, nuts, lumber, employment).

Trees also feed man's spirit. From childhood, trees inspire awe by their size; their tenacity through storms and stresses for hundreds of years; and their textures, fragrances and sounds. Remember the adventure of climbing trees and making tree houses, enjoying the solitude of "hiding out" and the sweet flavor of fruits just plucked? Or spending hours watching bees gathering nectar and birds building nests? At all ages and among all species, arborophiles live!

Now, as adults, knowing trees for all their worth, even the timid should feel compelled to shout out against clear cutting a mature stand, against the gypsy moth's destructive force, and against senseless waste of trees to expedite land development... against all forms of arboricide. Our hearts are wrenched to see only a stump left of a healthy mature *Magnolia grandiflora* after years of passively enjoying it on our daily trip to work.

If you have a favorite natural area, whether it be in the city or the countryside, land use decisions will affect it. You need new skills for its protection. Recently, at a Conservation Council of Virginia meeting, Delegate Tayloe Murphy, Jr., Chairman of the Commission on Population Growth and Development, discussed growth management tools. He spoke strongly for citizens being credible and reasonable with land use planners. At this same meeting came an announcement of a series of workshops, "Land Use and the Environment: Seminars for Citizen Planners." Consider participating. (Details appear on page 4) Mighty trees and natural habitats are truly at the mercy of growth and need you as their advocate.

Many years after that first surprise of bright spring flowers peeking from under forest leaves, we realize how this first delight bonded us to the flowers. It demands our ever growing commitment to preserving this type of serendipitous experience for future generations.

**VNPS is busy 'conserving wild flowers and wild places.'
Come along with us!**

Nicky Staunton

THANKS FOR GIVING

1990 Fund Raising Appeal: A Success

Great appreciation to each of you supporting VNPS educational programs through your generous cash gifts! We have gone beyond our hopes as we near \$2,000. You are already enjoying benefits of your gift as our new *Bulletin* editor, Virginia Klara Nathan, sees that you receive a thoroughly professional newsletter. We are beholden to each of you for your enabling gift and look forward to your benefiting in all VNPS programs.

Talents & More Given on Earth Day

Members from all chapters were active in local Earth Day events, setting up educational displays, giving guided walks, working on clean-up projects, and installing commemorative plantings, to name a few.

Expressing the dual nature of the Virginia Native Plant Society, the VNPS Board of Directors voted to give two symbolic gifts on Earth Day in behalf of all members.

The Society gave a financial contribution to the Natural Area Preservation Fund. Donations to this fund are used by the Department of Conservation and Recreation to acquire land for natural area preserves.

To commemorate the day horticulturally, we plan to give the State Arboretum of Virginia at Blandy a mountain maple, *Acer spicatum*. (We have not yet been able to locate a source of a nursery propagated *Acer spicatum*. Society members are asked to notify VNPS President Nicky Staunton if they know of a source.)

The *Bulletin*

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Nicky Staunton, President
Virginia Klara Nathan, Editor
Barbara Stewart, Artist

Original material contained in the *Bulletin* may be reprinted, provided credit is given to the author, if named. Readers are invited to send letters, news items, or original articles for the editor's consideration. They should be typed (double spaced, please) or sent as a text file on a 5 1/4 inch floppy disk to the Editor at Route 3 Box 119-F, Floyd, VA 24091.

The deadline for the next issue is July 10.

A Hybrid Population of *Claytonia* in Virginia

An interspecific hybrid population of *Claytonia* (Portulacaceae) is reported for Virginia. Putative parents are the native species of the region, *C. caroliniana* Michx. and *C. virginica* L. The station is in Rockbridge County, 4.5 miles south of Lexington, on the south bank of Buffalo Creek, 0.7 miles west of U. S. Highway 11.

C. caroliniana is abundant on the rich, loamy, forested talus of the north-facing limestone bluff which overlooks Buffalo Creek at this point. This steep habitat is relatively undisturbed. The bluff yields abruptly westward to rolling pasture, deforested and highly disturbed, perhaps, from colonial times. In damp habitats in this zone one finds *C. virginica*. On the border between the two parental habitats there is a broad springy depression in the hillside, highly disturbed, given to weeds and saplings, and used for a brush dump. This is the habitat of the hybrid *Claytonia* population.

Parental populations approach the hybrid habitat, *C. caroliniana* from the

east and *C. virginica* from the west, both perfectly identifiable within twenty meters of each other. The hybrid population forms a reticulate link with the populations of the putative parents in that plants carry seemingly unlimited combinations of characters. Leaf width ranges from narrowly linear and apetiolate to broadly lanceolate and petiolate with an entire gamut of intermediacy. Although the hybrid population is not massive (some plants perhaps lying under dumped brush) enough were seen to conclude that gene flow must be thorough and uninhibited. The situation is exactly as one would expect from repetitive prime and back crossing involving true compatibility. Bees were observed to visit indiscriminately all kinds of plants involved in April, 1962 and April, 1963. Chromosomal balance between *C. caroliniana* and *C. virginica* ($2n=16$) is known to exist (Rothwell, 1959). Fertility of the hybrid plants seems assured.

Claytonia virginica is reputedly a highly variable species, both in cytology and external morphology (Rothwell, l.c., Lewis, 1959, 1962). In Virginia it occupies varied habitats. It tolerates human disturbance of habitat as long as its moisture requirements are met and it is not deliberately or accidentally destroyed.

Claytonia caroliniana is not known to be so variable. Extensive studies have not been applied to this species as they have to *C. virginica*. In Virginia it occupies relatively undisturbed habitats, such as the bases of cliffs. Being essentially a northern species its shade requirements may exceed those of *C. virginica* at the Virginia latitude, thus possibly failing where the forest cover is removed. *Claytonia virginica* may, of course, occur in a similar habitat; if so, *C. caroliniana* is, as a rule, distant.

It is suggested that *C. caroliniana*, in the southern Appalachian region, is a "relict" from an ancient northern reservoir, surviving in habitats that most simulate conditions in the northern heartland of the species. Such habitats in Virginia are usually so fortuitously situated by terrain and patterns of agriculture as to remain relatively undisturbed and isolated from the habitats of the more tolerant *C. virginica*. Thus *C. caroliniana* could develop in isolation from *C. virginica* all the while retaining an original cross-compatibility with its congener. By redundant chance, in this instance, man has perforated the ecological barrier long existing between the two species. The opening up of land close to a



Claytonia caroliniana

population of *C. caroliniana* has provided a habitat suitable to *C. virginica*, the more aggressive species, so that in time the two parental populations were within pollinating distance of each other.

Clearly, the present hybridization is exceptional. Rothwell (l.c.), in his extensive studies, found no adjacent populations of the two species nor any intermediate populations. Thus there remains no reason to question his conclusion that the highly complex chromosomal variation, known in *C. virginica*, is unrelated to interspecific hybridization. Topography and land use still generally preserve the ecological barrier between the two species, but it seems likely that more intergradient populations will be found in the future, if looked for.

Leonard J. Uttal
Dept. of Biology, Virginia Tech

Reprinted with the author's permission. For references, see literature cited in *Rhodora* Vol.66, 766, 1964. Sheets of specimens pertinent to this paper are deposited in the herbarium of Virginia Polytechnic Institute.



Claytonia virginica

From a Wildflower Gardener

Beware! Collected Plants Being Marketed

VNPS members should warn their gardening friends not to purchase the wildflowers packaged in peat moss filled plastic bags that are being sold in nurseries, and hardware and garden supply stores. In addition to the poor horticultural quality of the plants, the pink lady's-slippers must be considered wild collected since the species is not being commercially propagated; the trout lilies and trilliums also may have been wild collected.

Hundreds of species of beautiful nursery propagated wildflowers are available to gardeners from nurseries on the VNPS Nursery Source List. For a copy, send a SASE to VNPS-Nursery Sources, P.O. Box 844, Annandale, VA 22003.

Natives Recommended

At a recent gardening symposium, "Native Plants: Inspiration for Garden Design," held at the U.S. National Arboretum, Larry Lowman enthusiastically described some of the many native shrubs and small trees he uses in the public and private landscapes he designs in Arkansas. Virginia sweetspire, *Itea virginica*, pawpaw, *Asimina triloba*, and Southern wild raisin, *Viburnum nudum*, are adaptable and can be used in a variety of landscape situations. Shrubs he likes for good foliage and/or flowers are bottlebrush buckeye, *Aesculus parviflora*, oakleaf hydrangea, *H. quercifolia*, and evergreen sweetbay, *Magnolia virginiana*. For interesting berries, Lowman recommends beautyberry, *Callicarpa americana*, and strawberry bush, *Euonymus americanus*. Florida anise, *Illicium floridanum*, usually considered hardy only to zone 8, grows well in zones 7 and 6 in Lowman's experience. He advises growing it on the north side of a building since it needs winter shade.

Needed: Baptisia Seed

Members with baptisia in their gardens can help Ph.D. candidate Kimberly Krahel who needs seed of all species of baptisia for breeding research. Krahel wants to develop more baptisias with garden value. If you will have seed to share, contact her at University of Georgia, Horticulture Department, 1111 Plant Science Building, Athens, GA 30602.

Nancy Arrington
Horticulture Coordinator

VIRGINIA'S RAREST PLANTS

Tomanthera auriculata, Earleaf Foxglove

Tomanthera auriculata, the earleaf foxglove has always been a rarity in the Eastern United States. Fewer than a dozen collections were made in the Washington, DC area representing the extent of the known populations from Maryland and Virginia. In the midwest, this attractive member of the foxglove family, Scrophulariaceae, was probably relatively common, at least until its preferred habitat, open grassland and savannahs, was converted to agriculture. Fewer than fifty extant populations in the world are now known. Therefore, the species has earned dubious honor as a candidate for listing by the U.S. Fish and Wildlife Service as a Federally Endangered Species.

The last Virginia sighting of earleaf foxglove was 1987 when a well-documented population in Fairfax County was last observed. In 1988, the site was graded to make room for a housing development. Such is often the fate of



Tomanthera auriculata
Illustrated by Megan Rollins

our rare plants which occur near urban areas.

In 1989, an intensive survey was conducted by the Virginia Natural Heritage Program to check the most promising remaining habitats in northern Virginia. Using the 1987 sighting and information from other States, we decided to search for the elusive species in the Culpepper triassic basin where the most suitable soil type, Iredell, occurs frequently. Over fifty open meadows with Iredell and related soils were checked, yet no sign of the earleaf foxglove was found. The good news is that this continues to be a high-profile species with more funding from the U. S. Fish and Wildlife Service available for surveys. The

Heritage Program will work diligently to find and protect this species in Virginia so that this delicate rarity may be enjoyed by future botanists.

Chris Ludwig - Botanist
Virginia Natural Heritage Program

Coming Events

Close to Home

Land Use Seminars

Although mandated by Virginia laws such as the Chesapeake Bay Preservation Act, natural resource protection needs informed citizens actively participating in land-use planning. The Chesapeake Bay Foundation and Friends of the Middle James will instruct citizens at "Land Use and the Environment: Seminars for Citizen Planners." Monthly sessions will be held from 7-8:45 p.m. in the auditorium of the Richmond Public Library as follows:

May 21-Natural Resource Identification and Protection

June 18-Laws Which Protect Land and Water

July 16-The Chesapeake Bay Preservation Acts

For more information, call Russ Baxter of the CBF (804) 780-1392 or Friends of the Middle James (804) 287-2070.

Canoe Trips

On Saturday, May 26 at 9 a.m., Elaine Haug (Prince William) will lead a canoe trip to Mason Neck Wildlife Refuge. Call Prince William Park Authority (703) 491-2183 for fees and reservations. For dates of other canoe trips this summer, call (703) 339-7265.

Rhododendron Day

June 9 on the Blue Ridge Parkway. Begin the day at the Peaks of Otter Restaurant at 9 a.m. for breakfast, or join coordinator Paul James (Blue Ridge) at the Lodge at 10 a.m. for the field trip. Call (703) 334-5783 for details.

Two Overnight Trips

Sponsored by Blue Ridge Wildflower Society. Open to all VNPS members. June 15-17 Bluff Mt. Fen. West Jefferson, NC. Bob Tuggle (703) 647-1205. July 7-8 Cranberry Glades, WV. Leader Rich Crites (703) 774-4518.

GARDEN EXHIBITS WILDFLOWER PORCELAINS

On March 23, the Lewis Ginter Botanical Garden in Richmond opened a new exhibit of Virginia wildflowers sculpted in porcelain. The opening featured a lecture and slide presentation by the sculptor, Patrick O'Hara, plus a half-hour slide presentation by Pocahontas Chapter member Hal Horwitz.

Each of the five sculptures, by the Irish artist and conservationist, represents a different region of the state. The works are botanically and ecologically correct, showing combinations of plants growing as one might find them in the wild. Each piece also features a native butterfly.

Executive director, Robert S. Hebb, feels "These sculptures are comparable in botanical detail and artistic merit to the famous Glass Flowers at Harvard." VNPS president Nicky Staunton, who attended the opening, found the porcelains to be "even finer than Boehm's!"

Last April, Blue Ridge Wildflower Society members Sam and Dora Lee Ellington guided O'Hara on a sojourn to the Blue Ridge. The result was "Blue Ridge Fire," which highlights fire pink, *Silene virginica*. "Trilliums at the Travertine Falls" was designed from observations made on land owned by The Nature Conservancy at Falls Ridge Preserve in southwestern Virginia.

Another piece, "On Potomac's Bank in Springtime," represents the early

spring flora of Great Falls Park in northern Virginia where O'Hara found subjects in various spring wildflowers including Virginia bluebells, *Mertensia virginica*, not only in its common pale blue-flowered form, but also in its rare white-flowered form.

While guided by John Clayton Chapter member Donna Ware, O'Hara received inspiration for two sculptures. Symbolizing the 'man-made' habitat found alongside Virginia's highways, "Pride of Pocahontas" features wildflowers familiar to the traveller such as butterfly weed, *Asclepias tuberosa*. The centerpiece of the collection, "Sweet Bay of Little Deer Run," highlights the emblem of the Garden, the sweet bay, *Magnolia virginiana*.

North Carolina Wildflower of the Year

The 1990 North Carolina Wildflower of the Year is seashore mallow, *Kosteletzkya virginica*, a member of the hibiscus family (Malvaceae). Though native to east coast salt marshes and brackish water, seashore mallow will grow in drier soil and is well suited to a variety of growing conditions. Three-inch pink blossoms with prominent yellow centers appear in August on plants that grow 4-6 feet tall with a 4 foot spread. For a descriptive brochure and packet of seeds, send a business-size SASE to: 1990 NC Wildflower of the Year, North Carolina Botanical Garden, Box 3375 Totten Ctr., University of North Carolina, Chapel Hill, NC 27599.

NCBG Seed Distribution

As part of its "Conservation Through Propagation" program, North Carolina Botanical Garden once again offers seeds and spores of many showy and easy to grow natives. This year their list includes 16 trees, shrubs and vines; 5 grasses and sedges; 37 wildflowers; 5 carnivorous plants; and 10 ferns. Many perpetual favorites are available; new species have been added as well.

As a benefit of membership in the Botanical Garden Foundation, members receive eight free seed packets from the list. Additional seed packets cost \$1.00 per species. Non-members must include \$1.00 per species with their request. To obtain membership information and a list of offerings, send SASE to: North Carolina Botanical Garden, Box 3375 Totten Center, University of North Carolina, Chapel Hill, NC 27599. Requests are filled on a first come, first served basis through August 1, 1990.



Kosteletzkya virginica

ENPA Meeting in August

The Eastern Native Plant Alliance, a network of organizations that promote and demonstrate native plant conservation, plans its third annual meeting August 17-18 at the Holden Arboretum, Mentor, OH. The impact of wild collection for herbal or medicinal purposes will be one of the major topics. The VNPS Board of Directors has approved a contribution of \$50 in support of ENPA's program this year.

The letter-writing campaign against the misleading use of "nursery-grown" to describe wild collected plants resulted from the 1989 ENPA meeting. Other projects initiated by ENPA include developing baseline data on selected plant populations, and drafting guidelines for land-use practices.

ENPA includes a variety of institutions and organizations actively engaged in native plant conservation in eastern and central North America. Among VNPS members participating in the 1990 program are Faith Campbell, who will discuss lobbying how-to's; Jocelyn Alexander, who will speak on conservation on private land; and VNPS representative Mary Pockman, who will facilitate a session on ENPA priorities for 1990-91.

Coming Events

Cullowhee Conference

This year's "Landscaping With Native Plants" conference will be held July 26-28. This conference annually draws together native plant enthusiasts from more than twenty states. Registration is usually filled by July 1, so register promptly. This year field trips will be offered on July 25. To receive a detailed brochure, contact Sue DeBord, Office of Continuing Education & Summer School, Western Carolina University, Cullowhee, NC 28723, (703) 227-7397. For information about this year's program and facilities, *Bulletin* readers may contact the conference director, Mary Painter, Wildlands, P. O. Drawer D, Hume, VA 22639; (703) 364-1665.

Farther Afield

New England Wildflower Society (Garden in the Woods, Hamenway Road, Framingham, MA 01701) programs for summer 1990:

May 26, 27 & 28 - Botanizing in Rochester-Syracuse areas of NY.
June 23-30 - Flora of the Bighorn Mountains of North-Central Wyoming.
July 8-21 - Olympic Peninsula Odyssey in Washington State.

Eagle Hill Wildlife Research Station (Steuben, ME 04680) offerings:
June 10-16 Coastal Field Botany
July 1-7 Field Pteridology
July 22-28 Mycology Techniques
August 5-11 Wetlands Ecology
August 12-18 Marine Botany
August 19-25 Field Ethnobotany
September 9-15 Mosses and Liverworts.

John Werner, past president of the **Alaska Native Plant Society**, will lead two trips this summer to the Denali Parks of Alaska. Travel is by train and river rafts. College credit available. For details, John Wenger, 6038 E. 12th. #10, Anchorage, AK 99504.

Floral Tributes

Whether in a formal setting, such as a classroom, or an informal one, such as a family picnic, most Society members have opportunities to relate their love of plants to children. In order to spark an interest in flora, which is often thought of as static by youngsters, one can show them a trick or two of the plant world. The following article may provide you with a few ideas.

It is a fair assumption that all the people reading this newsletter are already more than casually interested in plants. They may be amateur or professional sleuths, tracking down the rarest of the rare. They may be plant advocates, agitating for the preservation of our native flora. They may be horticulturists in search of natives of the exact shape, color, or water requirements, to fit their landscape design. They may be all of these things, and more.

It is also a fair assumption that all the readers are adult-many are old enough to have forgotten how they first became enthusiastic about plants.

How do children become interested in plants? After all, plants are static. They possess none of the glamor or excitement of a garter snake or horned lizard along the trail. What plant features capture kids' imaginations? What facts about plants bore them? What turns children into the next generation of Native Plant Society supporters? I think about questions like these as I plan outdoor programs for children. As a result, I would like to pay tribute to many "old reliables" of the plant kingdom that seem to go down well with the younger set.

Most of the examples fit into the "nature did it first" category.

Thanks go to the fruits of *Glycyrrhiza lepidota*, wild liquorice, *Arctium minus*, burdock, and *Xanthium strumarium*, cocklebur. These wonderful examples of "nature's velcro" start the kids thinking in terms of form fitting function. Details seen with a hand lens can be quite a revelation.

Many of the composites provide parachute-achenes in such abundance that the kids can experiment with a little seed dispersal. *Tragopogon dubius*, salsify, is a satisfying example because of its size.

And talking of dispersal, the maples, with their propeller-samaras, and the oriental poppies (common escapees to the wild), with their pepper-shaker, poricidal capsules, are perfect vehicles to convey form-and-function ideas. They also provide proof that plants are not so static after all.

Nature is a great packager. The pods of *Asclepias speciosa*, showy milkweed, are particularly appealing. Just opened, the seeds lie in neat rows overlaying the tightly packed tufts of silk-like hairs that will later carry the seeds off on the wind. So precise is the packaging, that the seeds remind one of fish scales. As the silk dries, layer by layer the seeds are carried away--a nice timing mechanism for dispersal. Ask the kids if they could stuff all those seeds back in the pod you'd get a chorus yelling "No way!" The same applies to cattails. One quick squeeze of a ripened cattail provides a highly entertaining "snowstorm."

Did we think we invented barbed wire? That invites the comparison with a branch of *Robinia pseudoacacia*, black locust, or *Prunus americana*, wild plum.

None of these plants is rare, or hard to find. That's the beauty of them. Some are not native. Children are largely unaware of, and indifferent to, the distinction between native and non-native. Just as they are bored by names, unless they are intrinsically intriguing, or unless they have a good story attached.

What kids remember are nifty mechanisms, like the seed-shooting mock cucumber, *Echinocystis lobata*, that has "mini-loofahs" inside. They remember plants that look like something else, the elephant-heads of *Pedicularis groenlandica*, elephantella, or the dragon-tongues of the Douglas fir cones. They remember plants that scratch, *Mentzelias* for example. They remember plants that stink, such as *Grindelia squarrosa*, gumweed, and of course mints of all kind. They remember furry leaves like the mullein and twining tendrils like the vetch.

This may seem a statement of the obvious, but in the quest for rarities it is easy to dismiss the familiar, (Oh! that's only a weed), forgetting that these are the plants that may well "hook" the next generation of plant conservationists.

Now, if only someone will tell me how to explain *Silene antirrhina*, sleepy catchfly, to the kids. If it is good for the plant to catch insects on its stem, presumably to stop the insects plundering nectar or pollen, then why is it only good to catch those insects on alternating parts of the stem? As always, I sign off with more questions than answers.

Ann Cooper
Member, CNPS

(Reprinted with permission from *Aquilegia*, Spring 1989, newsletter of the Colorado Native Plant Society)

VNPS FISCAL YEAR 1989 INCOME STATEMENT

INCOME

INTEREST INCOME	\$960
DUES, MEMBERSHIP	\$5,668
DONATIONS	\$736
SALES, GIFTS, & BOOKS	\$671
AUCTION SALES	\$1,501
OTHER INCOME	\$20
TOTAL INCOME	\$9,554

EXPENSES

ADMINISTRATION, SOCIETY	\$3,316
MEMBERSHIP	\$1,503
TREASURER	\$186
PUBLICATIONS, PUBLICITY	\$3,239
FUNDRAISING	\$663
COSTS, GIFT & BOOK SALES	\$63
EDUCATION	\$503
CONSERVATION	\$9
BOTANY	\$207
NOMINATING	\$44
ANNUAL MEETING	\$1,263
WILDFLOWER CELEBRATION	\$682
TOTAL EXPENSES	\$11,678

NET INCOME (\$2,123)

SUMMARY BALANCE

TOTAL ASSETS \$16,530

LIABILITIES

CURRENT LIABILITIES	\$1,688
LONG-TERM LIABILITIES	\$2,100
UNCLASSIFIED LIABILITIES	\$433
TOTAL LIABILITIES	\$4,221

NET WORTH

TOTAL NET WORTH	\$12,309
TOTAL LIABILITIES AND NET WORTH	\$16,530

ROBERT K. HERSH
3213 N. JOHN MARSHALL DRIVE
ARLINGTON, VA 22207

Board of Directors
Virginia Native Plant Society

I have examined the accompanying statements of assets, liabilities, and fund balance as of October 31, 1989 and 1988 and the related statements of revenues, expenses, and changes in fund balance for the years then ended, in accordance with standards established by the American Institute of Certified Public Accountants.

In my opinion, the above-mentioned financial statements present fairly the financial position of the Virginia Native Plant Society at October 31, 1989 and the results of its operations for the year then ended, in conformity with generally accepted accounting principles consistently applied.

Robert K. Hersh
Certified Public Accountant
February 26, 1990

FROM NEAR AND FAR

Enticing a Reader

The cover of *National Wildlife*, April/May 1990, is enough to make a wildflower enthusiast flip open the pages looking for more. And more one finds in "Planting the Seeds of a Nation," an article reviewing the National Wildflower Research Center in Austin, TX. Native plantings are promoted as being economically and environmentally advantageous, and even patriotic. The cover, taken in Goat Rocks Wilderness, Washington, captures a hillside of native pink monkey flowers and purple lupines in bloom. Other outstanding meadow photographs from The West fill in the pages.

Surprising Find

Yale University researchers have unearthed the oldest known flower, a tiny fossilized plant estimated to be 120 million years old. Botanists were surprised by the plant's humble size and appearance; barely one inch tall with a drab green or beige flower, quite contrary to the traditional depiction of prehistoric plants with showy magnolia-like flowers and large leaves. The diminutive plant grew on the edge of a pond in the Koonwarra area of Australia. It probably was a perennial with an underground stem. With two leaves attached to its axis and one flower, the Koonwarra plant could have been a transition organism moving toward either the dicot or monocot branches of flowering plants.

Zoos of the Future?

Zoos attract and educate. However, they are flawed as sources of environmental education because they present an incomplete and fragmented picture of life on earth. They show only the present and most often only the animal half of the biological picture. They also seldom show man's place. In "The Zoo in Your Future" (*WETA Magazine*, January 1990), author Michael H. Robinson, director of the National Zoo, suggests replacing zoological parks with biological parks, BioParks as he calls them. BioParks would combine exhibits from natural history museums, botanic gardens, arboretas, aquariums, zoos and anthropology collections, putting plants into the picture in their true role as major components of the planet's functioning. That means showing visitors the dependency of animals and man on plants.

One idea is to install a large

"Ecosphere", a sealed glass globe, at the entrance of the park. In this enclosed environment, plants and animals would coexist in total interdependence, with light being the only component entering from outside the system. Since we cannot understand the present state of life on earth without understanding its past, another suggestion is the use of fossils and reconstructions of past life forms alongside living plants and animals. Recently, the National Zoo has introduced this concept by incorporating a model of a prehistoric dragonfly into the invertebrate exhibit.

Creating Heirloom Trees

George and Martha Washington had no children, but at least one heir still resides at their Mount Vernon Estate, a tulip poplar, *Liriodendron tulipifera*, planted by Washington in 1775. As noted in "Sex and the Single Tree" (*American Forests*, October 1989), like the father of our country, the tree has famous roots but no known offspring. According to U.S. National Arboretum tree geneticist, Dr. Frank Santamour, a tree this old could not be expected to produce the number of healthy seed that a younger tree would. Also, since tulip trees require cross pollination by insects that must travel between two trees, it is not surprising that the tall and isolated tree has been unsuccessful in producing viable seed.

To assist the tree in this historic task, Dean Norton, Mount Vernon horticulturist, watched flower bud development on the historic tree, while Santamour worked out a method for gathering pollen from one of the most potent tulip poplars on the Arboretum grounds. Last spring, Santamour, using a large bucket truck to reach the branches, fertilized about 100 flowers and came back in the fall to clip off the seed. The seed pods then went to St. Louis, Missouri for germination and growing. About 1000 seedlings have come to life, less than hoped for, but a lot more than George's tree had been able to do on its own.

Promoting the Practical

Native ground covers rank among the most rugged and worthy plants, but they are ignored by most landscapers because many people don't see the purpose of buying something that they "can go out and dig up." Concern for habitat destruction and depletion of native ground covers is addressed by David S. MacKenzie in "Covering Native

Ground" (*American Nurseryman*, September 1989). MacKenzie feels the only way to adequately preserve native species is to avidly use nursery propagated plants in landscapes. Native ground covers are recommended since they offer the three most indispensable characteristics of high-quality landscape plants: adaptability to the area; low maintenance; and beauty. As a nurseryman, MacKenzie recommends four durable natives: Virginia creeper, *Parthenocissus quinquefolia*, lady fern, *Athyrium Filix-femina*, bearberry, *Arctostaphylos uva-ursi*, and *Sedum spathulifolium*.

Learning by Not Doing

Summer heat in March, snow in April--and in California, severe enough drought that the Santa Barbara Botanic Garden cancelled its annual spring plant sale. The Garden has been a leader in promoting landscaping appropriate to the dry climate of the region. However, even drought-tolerant plants need some water to become established, especially in spring. In forgoing the plant sale, the Garden encouraged the public to wait for ample rainfall before starting new plantings.

Botanical Anomaly

Reported in *Borealis*, the bulletin of the Alaska Native Plant Society: A biologist, studying the Mexican jungle, found a saprophyte which breaks the rules of placement of sex organs in plants. All other 248,000 species of plants known have flowers with the female pistil in the center surrounded by numerous male stamens. *Lacandonia schismatica*, unlike all other plants, has its three stamens surrounded by about fifty pistils, all on a flower the size of a sesame seed. Each tiny plant has up to seven flowers and, lacking chlorophyll, is almost translucent, like Indian Pipe.

More on Claytonia

The ground nesting bee, *Andrena erigeniae*, is found only where *Claytonia* spp. occurs; spring beauty's pollen is the primary food for the bee's larvae. *Andrena erigeniae* is an effective pollinator of *Claytonia*. However, the plant is able to reproduce just as well when visited by other insects. Growing plant species preferred by native bees conserves regional insect diversity, in addition to fostering wildflowers. For more on bee/flower relationships, look up "Bee Gardening-Wildflowers for Native Bees" (*Wildflower*, Fall 89).

Winter Workshop Review

"Virginia's Rare Plants," the VNPS Winter Workshop, drew an enthusiastic audience to Richmond to learn more about how Virginia's rare plant species are monitored and protected. More than fifty members from across the state gathered on a drizzly Saturday, March 17, to take part in this annual event, planned by Education Chair Cris Fleming.

Larry Morse, of The Nature Conservancy, explained the system of ranking rare species developed by the Conservancy and now used throughout the U.S. He illustrated its use in setting protection priorities with slides, many of shale barrens plants.

Chris Ludwig, of the Virginia Natural Heritage Program, took participants on a photographic tour of the state's rare plant habitats to show how this consistent methodology is applied in Virginia. Dan Schweitzer, of the Virginia Department of Agriculture and Consumer Services, described the process by which rare species are listed and managed under the state's Endangered Plant and Insect Species Act, including the limitations of the Act and its enforcement.

The workshop closed with two groups, led by Chris Ludwig and Chris Clappitt, also of the Heritage program, learning how to complete a Rare Species Sighting Form, using a plant population on the University of Richmond campus. That the "rare" species reported was, for example *Rosa multiflora*, added laughter to a memorable day.

Elaine Haug taped the entire workshop and is willing to loan the tape. Write her at 1418 Dillon Avenue, Dale City, VA 22193, or call (703) 670-2347.

What you can do

All the workshop leaders emphasized how interested citizens can help protect Virginia's rare plants. Among their suggestions:

Report sightings of rare species, even if you think they're known. You may be the one to add a helpful detail.

Volunteer your services, by providing photographs for example, to the Conservancy or the Heritage program.

Comment when the process of proposing species as candidates for listing calls for public input. VNPS is notified when comment is appropriate and tries to notify members promptly.

Comment again, or attend the public hearing, when the candidate species come to the Board of VDACS for listing. Letters are vital at this stage. VDACS Board members are more attuned to agriculture than to conservation, only a tiny part of the Department's responsibilities, and they need to know that there is strong public interest.

Lobby state legislators, through letters, phone calls, and personal conversations, to obtain adequate funding for plant protection. Led by Conservation Chair Faith Campbell, VNPS has been instrumental in achieving the first steps toward this goal. It's especially important to keep plant conservation issues before your representatives in a time of budget austerity.

CHAPTER NEWS

Projects Instituted, Continued, Completed

John Clayton Chapter has instituted an award to be given to community members making a significant contribution to plants and their habitats. This year the award went to an enthusiastic, high school botany teacher.

To recognize and encourage the use of wildflowers in restoration plantings at Colonial Williamsburg, the Chapter donated a modest sum to the C.W. landscaping department. Chapter representatives will also be giving suggestions on a new planting at Williamsburg's New Quarter Park.

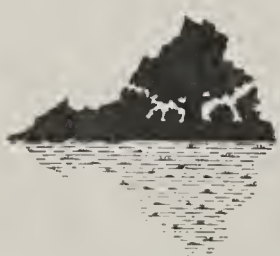
A highly visible roadside planting established by the Chapter several years ago has become self maintaining and its care has been turned over to VDOT.

Three Checklists Printed

"Summer and Fall Wildflowers of Northern Virginia: A Checklist" is newly available through the Prince William Wildflower Society. This checklist covers 115 species of monocots in 17 families and 980 species of dicots in 85 families. Price is \$3. "Spring Wildflowers of Northern Virginia: A Checklist" has been reprinted; price is \$2. "Trees, Shrubs, & Woody Vines of Northern Virginia" is also available for \$2. Contact Marion Blois Lobstein (703) 536-7150.

LOGO PATCHES AVAILABLE

Adorn your favorite satchels, camera bags, caps and visors, windbreakers, jackets, you-name-it with the new VNPS logo patches. The blue, brown, green and white, 3-inch, circular patches are a sew-on type. They depict the Commonwealth with a mirror-image of its wetlands (as in our return address below), surrounded by the words "Virginia Native Plant Society." Chapter representatives are encouraged to order extras to promote at meetings and events. Cost is \$4.25 each. Order from Patrick Baldwin, 430 Yale Drive, Hampton, VA 23666.



Virginia Native Plant Society

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A publication of the **VIRGINIA NATIVE PLANT SOCIETY**
Conserving wild flowers and wild places

Agreement with State Agency Protects Thompson Area

An agreement signed recently between the VNPS and Virginia's Department of Game and Inland Fisheries (DGIF) is designed to safeguard the integrity of one of Virginia's outstanding native plant areas. Famed for its *Trillium*, but also valuable for rare plants and special habitats, the state-owned G. Richard Thompson Wildlife Management Area, part of the Blue Ridge crest in northern Virginia's Fauquier and Warren counties, is managed by the DGIF. Working together, the two groups hope to find ways to protect flora without interfering with traditional uses of the Thompson.

A designated area of the Thompson will become a VNPS Registry site, voluntarily protected by its owner, the Commonwealth of Virginia. VNPS President Nicky Staunton has expressed appreciation on behalf of the entire Virginia Native Plant Society for the responsiveness of the DGIF to our Society's concerns about the Thompson, and the Department's initiative in suggesting the cooperative actions that have been undertaken.

A favorite haunt for wildflower enthusiasts for generations, the Thompson has been especially renowned for its dense stands of *Trillium grandiflorum*. Piedmont Chapter's Gary Fleming, whose field work over recent years has resulted in the most comprehensive existing report on the Thompson's flora, estimates that there are over 14,000 trillium plants per acre there. Dr. Richard Lighty, Director of the Mt. Cuba Center for the Study of Piedmont Flora, has called it, "the most dense and extensive...I have ever walked in and also one which shows the most variation in flower color." In addition to the more immediately visible flora, the Thompson supports other significant and rare plant communities, including several populations of nodding

trillium, *Trillium cernuum*, and a seepage swamp dominated by black ash, *Fraxinus nigra*, that ranks among the best of its type identified in Virginia according to Michael Lipford of the Virginia Department of Conservation and Recreation. Other rare plant discoveries, yet to be announced, have been made recently.

The Memorandum of Agreement culminates nearly five years of effort spearheaded by Piedmont Chapter to gain protection for the native plants of the Thompson area. In 1988, in the wake of gypsy moth damage, plans by DGIF for intensive logging within the Thompson prompted an alarmed VNPS to voice serious concern for the Thompson's plant communities to officials of the DGIF. Discussions spanned several years and involved other concerned individuals and groups, notably the Audubon Naturalist Society, an independent conservation organization centering around the Washington, DC area. Meanwhile, logging and clearcutting, involving enormous trucks and heavy machinery, continued.

An On-Site Consensus

Early in 1990, the Director of DGIF, James Remington, suggested an on-site field inspection and a meeting between members of his staff and representatives of the VNPS and others concerned. The scheduled day, May 4, found the mountain wrapped in rain and mist. However, the trilliums were at peak. Their pink and white expanse beneath the early spring canopy spread out in flawless splendor. Yellow lady's slippers, *Cypripedium calceolus*, capably filled in for the sun. Showy orchis, *Orchis spectabilis*, were tucked against a bank near the road. Redstarts were little brass bands in the treetops. Six senior staff members from the DGIF,

including Mr. Remington, joined Nicky Staunton, Piedmont Chapter President Mary Ann Gibbons, Audubon Naturalist Society Conservation Chairman John Gottschalk, and others from VNPS and ANS to hike and talk for three hours through the drizzle, mist, and flowers before retreating to a nearby cabin to confer.

All agreed that the area of the Thompson WMA should be managed in ways that would protect floristic values. Many questions, including the long-term impact of clearcuts and heavy machinery, lacked clear answers. It was Mr. Remington's suggestion that the Thompson be the subject of a written agreement between VNPS and DGIF. The document, drafted by VNPS, was signed on June 25. Under the terms of the agreement, the most sensitive floristic area of the Thompson will neither be logged nor subjected to heavy machinery for two years. During that time, the two groups will jointly study the designated area with the help of appropriate experts, and agree upon the best management techniques for its permanent protection. Traditional uses of the area, such as sport hunting and fishing, will continue. "If all our citizens were as interested in protecting our environment as you folks, our descendants would have little to worry about," said Mr. Remington.

Jocelyn Alexander
 Piedmont Chapter

Annual Meeting
September 22
 Including
Field Trip to Thompson
 See inside for details

FROM THE PRESIDENT

From the perspective of a 100°, humid July day (*Monarda*, *Rudbeckia* and *Asclepias* blooming nearby), the memory of a cool, rainy walk the first week of May to see *Trillium grandiflorum* at the G. Richard Thompson Wildlife Management Area is a pleasure. Abundant beauty of the trillium, corydalis, yellow lady's slipper, and many more native wildflowers which greeted us is a second pleasurable memory. The third happy recollection is the resulting Memorandum of Agreement initiated that day between VNPS and the Virginia Department of Game and Inland Fisheries and signed on June 25.

The report on page 1 by Jocelyn Alexander recaps the day's meeting and the resulting agreement. Much appreciation to Jocelyn for initiating the project for protection of the Thompson area and for her tenacity to the completion of the agreement. Thanks to Gary Fleming whose research documented the botanical value for the site; also, to John Gottschalk and Cris Fleming of the Audubon Naturalist Society who became involved in the work, as did Donna Ware of the College of William and Mary, and Mary Ann Gibbons, President of Piedmont Chapter. They all took time for meeting with DGIF Director James Remington, DGIF Chief of Division of Wildlife Bob Duncan, and other members of the DGIF staff on that rainy day in May and worked out the first steps of our agreement. The receptiveness of the DGIF representatives to our Society's concerns is appreciated. It was my privilege to be with the group and to see the mutual interest and determination to preserve this unique wildflower habitat.

The efforts on behalf of the Thompson WMA bring into focus the value of plant identification skills, site specific programs, cooperation with agencies responsible for the lands, pressure by mail and personal contact with public officials, VNPS Chapter involvement, and joint efforts with other conservation organizations.

One of the strongest services VNPS offers is plant inventory of sites. Each chapter has one or more experienced field botanists already involved in searching for endangered plants throughout Virginia. Jacob Kagey (Shenandoah Chapter) is doing inventory for GWNF Lee District Ranger John Coleman. Gary Fleming (Piedmont) is presently working in Shenandoah National Park. Donna Ware (John Clayton), Elizabeth Solomon (Jefferson), Elaine Haug and Marion Lobstein (Prince William), Chris Clampitt (Pocahontas), Dorothy Bliss (Blue Ridge), Cris Fleming (Potowmack), and many others are involved in field work with native plants. The more members trained in plant identification and field botany, the better the protection offered for Virginia native plants and their

habitats. By offering taxonomic classes to VNPS members, Piedmont Chapter recently helped strengthen members' plant identification skills. The recent Board workshop "Ways to Strengthen VNPS as a Conservation Organization" gave us these and other suggestions to aid in reaching our conservation goals.

During the past eight years, VNPS has grown in its effectiveness in promoting conservation and preservation of the native plants of Virginia. As we gather at the annual meeting on September 22 to celebrate our 1989-90 accomplishments, we plan special recognition of our history-making Memorandum of Agreement and registry of the DGIF agreement site. Come celebrate with us.

Nicky Staunton

A Special Invitation

Whether conservationists, gardeners, field botanists, artists...whatever our perspective, as members of VNPS, we spend our energies protecting and appreciating the treasures of Virginia's wild flora. The VNPS Annual Meeting, hosted this year by Piedmont Chapter, will be a gathering of another of Virginia's treasures: VNPS members. Once a year, at the annual meeting, members from all chapters get an opportunity to come together as members of the Society. This yearly pilgrimage to different areas of Virginia was wisely instituted eight years ago.

Along with necessary elections and other brief Society business, there are the all important pleasurable events giving us opportunities to visit friends not seen since last September--

Special field trips...hikes and tours where you can be shown special places and plants by members living near them.

Social times...times to network with fellow wildflower enthusiasts and share wildflower hunt stories and satisfying accomplishments in protecting habitats of our flora.

Silent auction...a solid funding event for our programs which gives each of us a chance to outbid someone and take home our choice of gifts donated to VNPS.

Banquet, speaker, and slide show...a meal shared with friends and a program for stimulating thoughts brings us to the finale of a rich day to be remembered as one of seven other great annual meetings.

Part of our time together at the annual meeting will be to say "Thank you!" to dedicated officers leaving their positions--Dorna Kreitz, Corresponding Secretary; Faith Campbell, Conservation Chair; Larry Morse, Director-at-large; Ann Regn, First Vice President. From our beginnings as a society, these four have supported VWPS/VNPS by sharing their knowledge, considerable professional skills, and seemingly limitless enthusiasm. We anticipate their continuing to work with VNPS as opportunities occur.

Along with all the other VNPS members, I look forward to your being a part of the annual meeting.

Nicky



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Nicky Staunton, President
Virginia Klara Nathan, Editor
Barbara Stewart, Artist

Original material contained in the *Bulletin* may be reprinted, provided credit is given to the author, if named. Readers are invited to send letters, news items, or original articles for the editor's consideration. They should be typed (double spaced, please) or sent as a text file on a 5 1/4 inch floppy disk to the Editor at Route 3 Box 119-F, Floyd, VA 24091. The deadline for the next issue is October 10.

Conservation Through Cooperation

Virginia Native Plant Society 1990 Annual Meeting

Saturday, September 22, 1990

Middleburg Tennis Club, Middleburg, Virginia

Three field trips are planned for the day which will allow VNPS members to see the high and the low, and the wild and the cultivated in the Piedmont Chapter area. So that all members will have an opportunity to see the VNPS Registry site at the G. Richard Thompson Wildlife Management Area, the "Thompson" has replaced Airlie as one of the field trips.

Thompson

This hike offers a look at one of northern Virginia's botanical treasure areas. Upper slopes of the state-owned G. Richard Thompson Wildlife Management Area, managed by the Department of Game and Inland Fisheries, are known for spring wildflowers, particularly the famed display of *Trillium grandiflorum*. However, early autumn is almost the equal of spring for splendor and interest along the sunny road banks and lovely woodland trails. Wildflowers in bloom should include many asters and goldenrods along with purple giant hyssop, horse balm, rattlesnake root, blue vervain, and, if we are lucky, ginseng in fruit. While not a strenuous hike, it includes some rocky uphill walking. Leader - Gary Fleming, Field Botanist for Piedmont Chapter.

Archwood Meadow

Archwood Meadow is the last, relatively-intact portion of a formerly sprawling area of low wet meadow and wetland, remarkable for its natural diversity. Blandy Experimental Farm is conducting a study here to learn techniques for managing such meadow habitat; we will learn something about this project. The privately-owned, wet meadow should be vibrant with lovely and interesting wildflowers at this season. Wildflowers to be seen are fairly typical of wet meadow habitat; the more interesting plants include the rare rough avens, swamp lousewort, and a particularly showy species of swamp polygonum, *Polygonum coccineum*. This is an easy walk over level trail. Leader - Jocelyn Alexander, Conservation Chair for Piedmont Chapter.

Virginia Natives

This will be a walking tour through Mary Painter's nursery greenhouses and the handsome gardens at her family's Wildside Farm, near Markham, VA, where there are more than 300 native species in cultivation. Visitors may view the inner workings of commercial plant production. There will be time for discussion and questions on seed collection, site preparation, and planting. Although wildflower sales will not be conducted during the tour, interested persons may obtain a catalogue. Leader - Mary Painter, VNPS Founder and nursery owner.

Schedule of Events:

12:00 noon -- 5:00 p.m. **Field Trips** -- Those who register for field trips will be sent directions to the meeting place.

5:30 -- 6:30 p.m. **Social Hour and Silent Auction** -- Time to enjoy conversation, exhibits, and bidding in the auction.

7:00 p.m. **Annual Business Meeting** -- Includes reports, election of officers, and time for questions and discussion.

7:30 p.m. **Dinner and Programs** -- A varied menu is being planned. Cost is \$18, including tax and gratuities.

The evening's speaker will be John Gottschalk, former Director of the U.S. Fish and Wildlife Service. Mr. Gottschalk is a past chairman of Citizens Alliance for the Chesapeake Bay. He is currently Conservation Chairman of the Audubon Naturalist Society. Pocahontas Chapter member Hal Horwitz, a renowned nature photographer, will close the evening by sharing a slide presentation on orchids.

Please make reservations for the field trips or dinner by returning the registration form below by September 12. Members who register will be sent a packet containing further details. For additional information, call Phoebe or John White at (703) 364-3066.

VNPS ANNUAL MEETING REGISTRATION FORM

Number attending field trips (no charge) _____

Number attending dinner (\$18 ea.) _____

I have a car for trip carpooling: Yes _____ No _____

Enclosed \$ _____

Name _____

Address _____

Phone _____

Make checks payable to VNPS. Reservations must be received by SEPTEMBER 12. No reservations will be held without payment. No refunds will be made after September 19.

Send to: **Annual Meeting**
Piedmont Chapter, VNPS
P.O. Box 336
The Plains, VA 22171

Annual Meeting of the Virginia Native Plant Society

September 22, 1990

SLATE OF CANDIDATES

The following slate of candidates is proposed by the 1990 Nominating Committee to replace officers, standing committee chairs, directors-at-large, and members-at-large of the Nominating Committee whose terms expire on October 31, 1990, and to fill existing vacancies in other classes.

Board of Directors

Class of 1991

CORRESPONDING SECRETARY: Nancy Vehrs, Prince William Chapter. Nancy will be filling Dorna Kreitz's unexpired term. She is Secretary of Prince William Chapter. Nancy serves as Clerk to the Fairfax Board of Supervisors. She also volunteers for Prince William Litter Control and the Adopt-A-Highway Program.

Class of 1992

EDUCATION CHAIR: Cris Fleming, Potowmack Chapter. Cris is currently serving as Education Chair. She developed the slide VNPS program "From Beach to Blue Ridge: Habitats of Virginia's Native Plants." She is Education Director of the Audubon Naturalist Society.

PUBLICATIONS CHAIR: Mary Pockman, Potowmack Chapter. Mary is currently serving as Publications Chair. She is Past President (1985-1988) of VNPS and also a past president of Potowmack Chapter. Mary is active in several other organizations with related concerns.

DIRECTOR-AT-LARGE: David West, John Clayton Chapter. David is Curator of Horticulture at the Virginia Living Museum. He has a lifelong interest in native plants and is currently developing a butterfly garden at the Living Museum. David was instrumental in coordinating the John Clayton Chapter plant sale at the Museum. David is filling Chris Clappitt's unexpired term as Director-at-large.

Class of 1993

FIRST VICE PRESIDENT: Chris Clappitt, Pocahontas Chapter. Chris is currently a Director-at-large, serving as Publicity Chair. He is a plant ecologist with the Virginia Natural Heritage Program. He has lived in Washington state where he was Conservation Chair of the Seattle Chapter of the Washington Native Plant Society. Chris will continue as Publicity Chair.

SECOND VICE PRESIDENT: Jim Minogue, Piedmont Chapter. Jim is currently serving as Second Vice President. He is a past president of the American Rock Garden Society, a member-at-large of the National Capital Area Federation of Garden Clubs, and a trustee of Belle Grove Plantation. He has served as a guide for the West Virginia Wildflower Pilgrimage.

CONSERVATION CHAIR: Ted Scott, Jefferson Chapter. Ted is Director Emeritus of the Piedmont Environmental Council. When he retired as Director of Programs for the Massachusetts Audubon Society, he moved to Orange, VA where he serves on the Property Committee for Montpelier. Ted was instrumental in Montpelier's designation as a National Landmark.

FUND RAISING CHAIR: Pat Baldwin, John Clayton Chapter. Pat is currently serving as Fund Raising Chair. He is a charter member of John Clayton Chapter and serves as its Education Chair. A pharmacist, Pat is interested in field botany and photography. Pat recently completed a very successful fund-raising appeal for the VNPS.

DIRECTOR-AT-LARGE: Nancy Arrington, Prince William Chapter. Nancy is currently serving as Director-at-large and Horticulture Coordinator. She is a past president of the Prince William Wildflower Society. She has served as the PWWS newsletter editor, Plant Sale Chair, and garden tour guide for Wildflower Week.

DIRECTOR-AT-LARGE: Bob Eubank, Blue Ridge Chapter. Bob has had extensive field experience in the Lynchburg and Roanoke area. He is microbiology supervisor in the VDACS Animal Health Lab. Bob is an active member of the Virginia Society of Ornithology; he has worked on the Virginia Breeding Bird Atlas Project.

1991 Nominating Committee (One Year Term)

Gay Bailey, Jefferson Chapter. Gay is currently on the Nominating Committee. She is Vice President of Jefferson Chapter and a director on the Board of the Ivy Creek Foundation in Charlottesville.

Cynthia Long, Chair (John Clayton)
Nancy Hugo (Pocahontas) Mary Painter (Piedmont)
Ken Wieringo (Blue Ridge) Gay Bailey (Jefferson)
1990 Nominating Committee

PROXY, 1990 VNPS ANNUAL MEETING

I hereby authorize the Corresponding Secretary to cast my vote for the slate of candidates proposed by the Nominating Committee.

Signed _____

Address _____

Return by September 20 to
Corresponding Secretary, VNPS,
P.O. Box 844, Annandale, VA 22003

PROXY, 1990 VNPS ANNUAL MEETING

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Annual Meeting of the Virginia Native Plant Society

September 22, 1990

SAMPLING OF LOCAL ACCOMMODATIONS

Warrenton:

Comfort Inn (703) 349-8900 or 1-800-228-5150
6633 Lee Highway, Warrenton, VA 22186
Rates from \$48-single, \$54-double
Includes continental breakfast
Ask for corporate rates (contact "Sharon").

Howard Johnson (703) 347-4141 or 1-800-654-2000
6 Waterloo, Warrenton, VA 22186
Rates from \$42.30-single, \$53.10-double
Ask for corporate rate, show membership card upon arrival.

Other accommodations include Hampton Inn (703) 349-4200,
Rip Van Winkle Motel (703) 347-7272.

Leesburg

Best Western (703) 777-9400
762 E. Market Street, Leesburg, VA 22075
Rates from \$45-single, \$50-double
Ask for corporate rate, show membership card.

Other accommodations include Carradoc Hall (703) 771-9200,
Day's Inn (703) 777-6622.

Middleburg/Aldie

Red Fox Inn (703) 687-6301
P.O. Box 385, Middleburg, VA 22117
(on main street of Middleburg)
Rates from \$125-single, \$225-double
Includes continental breakfast.

Little River Inn (703) 327-6742
Box 116, Aldie, VA 22001 (on Route 50)
Rates from \$75-single, \$115-double
Breakfast included.

Other inns include Windsor House (703) 687-6800,
1763 Inn (Upperville) (703) 592-3848.

Camping

In Haymarket, Yogi Bear Jellystone Park (703) 754-7944
14004 Shelter Lane, Haymarket, VA 22069
For 2 people: Tent site - \$13, Trailer site - \$15-18
\$2 additional for each person over five.

Notes:

Rates do not include tax. If you wish to stay at one of the inns, reserve early. Travel time to field trip meeting area is approximately 45 minutes from Warrenton, Leesburg, and Haymarket; 15 minutes or less from Middleburg or Aldie.

The annual meeting of the membership of the Virginia Native Plant Society will be held on Saturday, September 22, 1990 at 7:00 p.m. at the Middleburg Tennis Club, Middleburg, Virginia, to hear reports and to elect certain officers, directors, and members of the Nominating Committee.

Those persons who have paid dues for the 1989-90 fiscal year may vote on the business conducted. Members in good standing who are not able to attend the meeting may vote in absentia by sending proxies to Dorna Kreitz, Corresponding Secretary, VNPS, P.O. Box 844, Annandale, VA 22003. Proxies must be received by midnight September 20, 1990. Each family membership is entitled to two votes, other memberships to one vote.

Dorna Kreitz, Corresponding Secretary

Give to the Gala Auction

Add to the fun of the evening by contributing to and participating in the Gala Auction at the 1990 annual meeting. Donations of plants, books, art work, and handcrafts are especially welcome. Items donated need not have a high appraised value. A good variety of items spanning a wide range in value allows everyone to contribute and join in the fun of the bidding.

If you have items to donate, either inform your chapter auction chair or auction coordinator Karen Sorenson at 3207 N. John Marshall Drive, Arlington, VA 22207; (703) 534-2838 to obtain donor sheets. Donor sheets provide space to describe each item and record the names of the persons or businesses as making the donation. Please return information sheets preferably by August 21, but no later than September 1. Auction donations need to be at the Middleburg Tennis Club by 3:00 p.m. on Saturday afternoon.



For Wildflower Gardeners

Bluebells Going Places

VNPS recently received a request for Virginia bluebell seeds from a British gardener who had gotten a copy of our 1989 Virginia Wildflower of the Year brochure while visiting Monticello. Horticulture Coordinator Nancy Arrington collected seed from plants growing in her Northern Virginia garden and sent them along with growing instructions from Harry Phillips' *Growing and Propagating Wild Flowers* to Mrs. Sheelagh Hoblyn in East Sussex, England. The latest news is that the seeds have been planted with high hopes of joining other members of the Borage family in the Hoblyn garden.

Wildflowers for Butterflies

Adult butterflies are attracted to white, yellow, pink, and purple blossoms that are flat-topped or clustered and have short flower tubes. A folder published by Prince William Wildflower Society gives hints for establishing plantings to attract butterflies and lists food sources for adults and caterpillars. For a copy, send a business-size SASE to PWWS-Butterfly Garden, P.O. Box 83, Manassas, VA 22110.

New Butterfly Garden

The Norfolk Botanical Garden has received a \$10,000 donation for a butterfly-hummingbird garden. Features planned include flat rocks for butterflies to "sun" and shallow puddles for drinking. Plantings with nectar-producing, sun-loving flowers should lure butterflies and hummingbirds, while host plants will provide food for caterpillars and attract female butterflies to lay eggs.

Nancy Arrington
Horticulture Coordinator

NC Gardens Bus Trip

Blue Ridge Chapter is sponsoring a one-day bus trip to the North Carolina Botanical Garden and Duke Gardens on Saturday, September 8. The bus will stop in Roanoke and Lynchburg to pick-up participants. The trip is open to the public and VNPS member are especially welcome. For details and reservations, contact Bruce Boteler (703) 774 4072 or Bob Eubank (804) 239 9756.

VIRGINIA'S RAREST PLANTS

Euphorbia purpurea, Glade Spurge

Glade spurge, *Euphorbia purpurea*, is one of our showier, globally-rare wildflowers. Clumps of leafy stems, some a meter in diameter, appear in Spring and from the clumps, one or two large flowering heads develop. The flowers of glade spurge have a very unusual structure consisting of conspicuous, yellow bracts but no petal-like structures. As in other members of the Spurge family, Euphorbiaceae, when you pull off a leaf or break the stem, a milky, acrid sap oozes from the wound.

Glade spurge was recommended for state listing as Threatened at the 1989 Endangered Species Symposium. As a result, the Office of Plant Protection within the Virginia Department of Agriculture and Consumer Services (VDACS) contracted with the Division of Natural Heritage (DNH) to determine the status of the species. The Office of Plant Protection has regulatory authority to list plant species and depends on DNH inventory to determine when listing is appropriate. The search continues and a report on the status of the species will be completed following the field season.

This year's search by the Division of Natural Heritage (DNH) for glade spurge has been quite successful and illustrates how persistence, skill, and luck come into play when searching for rare plants.



Euphorbia purpurea
Illustrated by Megan Rollins

Persistence -- DNH contract botanists made three trips, covering a large terrain, before relocating a small population of glade spurge in Shenandoah National Park. Skill -- After hearing of the Shenandoah success, Heritage staff scientists picked out six similar sites, considering slope, geology, topography, and wetland type, and a new population with at least 500 plants was discovered. Luck -- Visiting a popular Grayson County wetland complex, Heritage scientists explored a small, braided stream complex and unexpectedly stumbled

upon a large population of glade spurge.

Concurrent with the searches, other conservation efforts to protect the species continue. The three populations now known from Shenandoah National Park will be protected through a memorandum of agreement between DNH and the National Park Service. The newly-discovered population in Grayson County will be recommended to The Nature Conservancy as an acquisition target. Russell County populations are among lands targeted for protection by the Department of Conservation and Recreation. With continuing persistence, skill, and luck, the future for this species looks bright.

Chris Ludwig - Botanist
Virginia Natural Heritage Program

Horticulture Committee Complete

The Horticulture Committee now has a representative from each chapter:

Blue Ridge	Dora Lee Ellington
Jefferson	Ted Scott
John Clayton	Carolyn Will
Piedmont	Celia Rutt
Pocahontas	Virginia Miller
Potowmack	Beth Holloway
Prince William	Marie Davis
Shenandoah	Ellen Silva

Committee representatives serve as liaisons between the local chapter and Horticulture Coordinator Nancy Arrington, who oversees activities and programs that have to do with native species as they are used in cultivation. The

coordinator also ensures that such activities and programs further the Society's conservation goals and are consistent with its policies. Additionally, the coordinator is available to assist in cultivation and propagation matters.

The VNPS receives requests for information about gardening with native plants in various locations throughout Virginia. Because of the diversity of habitats in the state, these requests are often referred to the chapter representative for additional help. Representatives will also serve as contributors to any horticulture publications the VNPS produces.

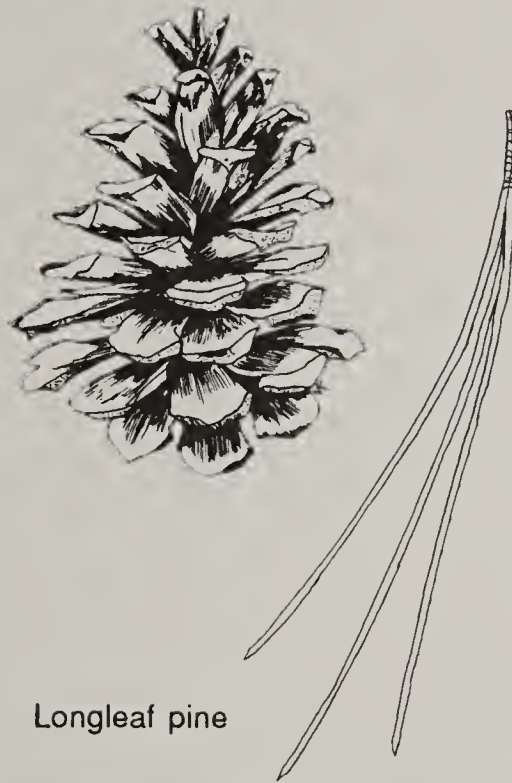
Finding Wildflowers in Virginia Blackwater Ecologic Preserve

Blackwater Ecologic Preserve, also known as the Zuni Pine Barrens, is a very special natural area along the Middle Atlantic Coast. It is the last reproducing longleaf pine stand in the state and the northernmost limit of this tree. The 320 acres of the Preserve were donated to Old Dominion University by the Union Camp Corporation through The Nature Conservancy in 1985.

The deed of trust requires the University to maintain the longleaf pine habitat, which is being done by a regular and controlled burning program. Dramatic changes in the vegetation of burned areas are taking place and at least four of the plants on Dr. Merritt Fernald's list which were believed to have disappeared there have been rediscovered, *Plantanthera blephariglottis*, *Sarracenia purpurea*, *Aristida virgata*, and *Vaccinium crassifolium*.

Blackwater Ecologic Preserve is near Zuni, VA on Route 460. Groups are welcome to visit the Preserve and explore the newly dedicated Gisela A. Grimm Nature Trail. For more information on the Preserve, contact Dr. Gerald Levy, Preserve Manager, Department of Biological Sciences, Old Dominion University, Norfolk, VA 23500; (804) 683-3595.

For a day filled with enjoyment and learning, take a trip to the Blackwater



Longleaf pine

Ecologic Preserve with Gisela Grimm, retired horticulturist and native plant enthusiast. She will lead you on a search for the rare and interesting plants growing in this unique habitat, always looking for another species found there by the eminent Harvard botanist, Dr. Merritt Fernald, over fifty years ago.

Becky White
John Clayton Chapter

Trail Honors Member

On April 20, before a large gathering of her friends and admirers, Gisela Grimm (John Clayton Chapter) was recognized when Old Dominion University President William B. Spong, Jr. named the Gisela A. Grimm Nature Trail at Blackwater Ecologic Preserve in her honor. ODU Botany Professor Lytton Musselman said the three-mile trail was so named because the 85-year old botanist has been an inspiration to both students and faculty through her competent work identifying plants and her deep interest in the Preserve from its beginning.

Since her retirement, Gisela has spent much of her time following two major interests, the development of Cape Henry Audubon Society's Weyanoke Sanctuary in Norfolk and moss taxonomy at the ODU Herbarium. Since 1983, she has been the architect and moving spirit behind the Wayanoke Bird and Wildlife Sanctuary. Nearly every week Gisela spends time in the herbarium at Old Dominion University working on the identification of some species of her moss collection. She is one of a handful of botanists working in moss taxonomy, and for her work, she has been named Honorary Curator of Mosses by the herbarium staff. She regularly collects new specimens for the ODU Herbarium and reports her findings to the *Atlas of the Virginia Flora*.

Becky White
John Clayton Chapter

For Natives and Tourists

States have adopted different ways to guide wildflower enthusiast to their floral treasures. In Minnesota, one just follows the signs, brightly colored signs, along designated state highways. State Highway 65, the first route to receive the designation, offers a glimpse into the state's prairie past.

For up-to-the minute tips on where to see the best wildflower displays throughout Utah, one can call the Wildflower Hotline (801) 581-5322. A five-minute recorded message, sponsored by the Red Butte Gardens, can be heard spring through October.

In Texas, wildflower lovers call the National Wildflower Research Center to obtain their Wildflower Hotline number. NWRC activates the hotline each spring when roadside displays are at their best.

In Calvert County, MD, a brochure is being developed to describe the plants and other points of interest near Scenic Route 4. Approximately 15 acres of native plants and garden escapes, known from colonial times, are being planted along the route.

Dutch to Label "Wild Bulbs"

A three-stage labeling agreement has been hammered out between Dutch flower bulb industry interests and the National Resources Defense Council, the World Wildlife Fund (TRAFFIC USA), and the Flora and Fauna Preservation Society of England (FFPSE). Effective July 1990, all flower bulbs listed under Stage One of the Bulb Origin Labeling Program and harvested from the wild will be marked "Bulbs from Wild Source" on packages from Dutch bulb exporters. (Other countries are not bound to this labeling agreement.) Beginning in 1992, cultivated minor bulbs will bear labels of origin and will be marked "Bulbs Grown from Cultivated Stock." Beginning in 1995, major bulb varieties--tulip, daffodil, hyacinth, etc.--also will be marked "Bulbs Grown from Cultivated Stock." Although only one-half of one percent of all bulbs traded through the Netherlands come from wild sources, the Dutch organizations view the issue of endangered species very seriously and will take additional steps to ensure the survival of the species listed.

Flight of Fancy

(Several scientific societies are campaigning to name the monarch butterfly, *Danaus plexippus*, national insect.)

Our monarchs float free--
Secure above the strife
Of foreign czars and wicked kings--
Emperors leading a charmed life.

Because dining in wild gardens
Where flame of poison milkweed grows
They become Borgias of the air--
Wings flashing warning wherever one goes.

And though many birds consider butterflies a feast
Monarch's distinctive patterns mark them negative prey.
Songsters having tasted once, and sickened,
Care not to dine at that buffet.

So safe over this country's length of sky
Fluttering flamboyant wings, our sovereigns roam--
Tricolors of burnt ocher, soot black, ivory--
American kings and queens in polychrome!

Helen Worth
Jefferson Chapter

The Study of Useless Things

Especially for Gisela Grimm and others like her who study "useless" things. Reprinted with permission from Sanctuary, January, 1990, newsletter of the Massachusetts Audubon Society.

For the last several weeks I have been identifying mosses that grow on one of the Massachusetts Audubon sanctuaries. It's a painstaking job requiring many hours peering through a microscope at minute features of cell walls and leaf tips. During the course of the research I have had time to ponder the peculiarities of this sort of work.

At first glance, inventorying this cryptic group of plants seems akin to memorizing Homer's *Iliad* in Greek--an interesting exercise, perhaps, but of dubious value. Mosses, after all, have long occupied a botanical backseat; most floras list only flowering plants, relegating mosses to specialized papers in obscure scientific journals. The lexicon of common names for plants is almost devoid of moss entries, and those that exist are mostly mistakes: reindeer "moss" is a lichen; Spanish "moss" is a relative of pineapple.

The natural world, too, seems largely to have bypassed the mosses. Despite the fact that they are succulent green plants, no moss is a major food resource for animals. The insect realm--always ready to offer up some voracious organism willing to render seemingly inedible substances into delectable mainstays of their diet--has ignored mosses. Even those ultimate scavengers of decay and demise, fungi and bacteria (to which the "moss" on our shower curtains more correctly belongs), are slow to feast on the mosses. As a result, my moss collections can be casually curated, left to dry at their leisure stuffed in an old newspaper, unlike my flowering plant specimens, which are carefully dried and stored to exclude such pests.

To all but a few terrarium enthusiasts, mosses are biological widgets--useless inventions of a creator inordinately fond of the color green. They don't taste good, grow tall, supply valuable



medicinal substances, or rally causes. The demise of *Pseudocrossidium horn-schuchianum* (known in North America only from a botanical garden in Vancouver, British Columbia, and a sunny limestone outcrop in western Massachusetts) is certain not to stir the hearts of Hollywood actors and Topekan housewives as do, for example, the limpid eyes of a baby harp seal. With the exception of a few *Sphagnum* species that are seized upon by gardeners for conditioning soil or are used for fuel in Ireland, mosses have little demonstrable value.

Valueless in an economic sense, mosses do not fare much better on an ecological balance sheet. At best, they often appear to be ecological bookmarks, occupying spaces in the text of complex ecosystems but doing little affect the substance of its functioning. They may play small roles here and there in slowing moisture loss, but again, with the exception of some peat-forming *Sphagnum* species, it is rare to find a moss that forms a key link in a delicate ecosystem.

So what good are they? Why spend time studying useless things? These

questions are really part of a much larger issue--the preservation of biological diversity--that conservationists are devoting considerable time and ink to in the last few years. Utilitarian arguments are marshalled on every front. The destruction of rain forests is bad, we are told, because the species lost might include ones that could be important food or medicine sources. Those that appear useless now might prove invaluable in the future. Others argue that some organisms may occupy critical ecological roles that are currently unrecognized, and their loss could doom entire ecosystems.

Such arguments may hold weight with a few enlightened politicians, but the position often proves tenuous to defend. The fact remains that relatively few species occupy such exalted positions in a value system so defined. After all, even with the loss of such an economically and ecologically valuable species as the American chestnut, the eastern deciduous forest continues to thrive.

"Deep ecologists" have pursued a different tack, maintaining that all things have an inherent right to exist. This, too, is a difficult defense to adopt when arguing with a slash-and-burn agriculturalist living at the edge of survival in the tropics. A utilitarian approach might be heard if the value of saving a species could be immediately demonstrated, but such philosophical positions are uncomfortable when confronted with starvation.

Yet if conservation efforts are ultimately to succeed, the public must recognize that preserving biological diversity is both necessary and right and the "useful" and "useless" are ephemeral appellations, handed down by an arrogant, hasty species that is far younger than most of the designees. By dint of their long-established existence alone, the mosses stake an equal claim to my patient inspection.

Peter Dunwiddie
Plant Ecologist, MAS

AAFB American Association of Field Botanists (AAFB), founded in 1983, is a group of about 100 botanically minded folks, including botanists, taxonomists, photographers, and just plain wildflower buffs. The "AF'Bees" are from a dozen states and Canada, but most members and



activities center around the Chattanooga, TN area. Their aims are--

- To enjoy searching for and identifying wildflowers;
- To exert every effort toward the protection of wildflowers and the preservation of their natural habitats;
- To encourage the exchange of information among members;
- To cooperate with similar groups in worthwhile projects;

To be available to nature centers and civic groups for programs.

A one-year membership, which includes a bimonthly newsletter and participation in events sponsored by AAFB, often in conjunction with Tennessee Native Plant Society, is \$8.00 per person. For more information, write or call J.I. 'Bus' Jones, President AAFB, 6810 Gayda Lane, Chattanooga, TN 37421; (615) 892-3009.

FROM NEAR AND FAR

Unlucky Lily

"If there is a fate worse than death, it may have befallen a population of western lily, *Lilium occidentale*, which until the mid-1960's occupied a few square meters of an Oregon state park. One of 42 historically known populations of this rare species, it now lies entombed under the agent of its extinction, a public restroom. Ironically, the restroom serves visitors to one of the park's main attractions, a botanical garden."--so begins an account by Russell D. Stafford in a recent issue of *Plant Conservation*, a publication of the Center for Plant Conservation. "Although few populations of western lily have met such an ignominious demise, many have disappeared or are in decline as a result of increasing human disturbance of their coastal bogland habitats. Of the species' historically known populations...at least nine are extinct, at least seven are declining, and at least eight face imminent extinction, according to Stewart T. Schultz of the University of British Columbia."

Recognizing the severity of residential, agricultural, and highway development threats to western lily, conservation organizations in the Pacific Northwest are uniting to protect the species in the wild and to preserve it in cultivation. (Reprinted by permission)

Tillandsias Threatened

Some species of *Tillandsia* bromeliads are on the verge of extinction due to extensive collection in their native habitats in Mexico, Guatemala, and Brazil. The plants are difficult to propagate and grow slowly, so those offered for sale are usually wild-collected. Most *Tillandsia* species have small natural ranges, making them very vulnerable to extinction. According to a report in a recent *Horticultural Abstracts*, some wholesale suppliers have offered dozens of species in bulk lots of up to 10,000 plants.

Pleasing and Appeasing

When suburban homeowners consider replacing high-maintenance turfgrass with low-maintenance "meadow lawns" of native plants, they are sometimes deterred by worries about complaints from neighbors. Pam Borden, in "Low-Growing Wildflowers," *Grounds Maintenance*, February 1990, suggests "civilizing" the appearance of a meadow lawn by choosing low-growing native plants. The article contains a list of compact (to one-foot-high) wildflowers which tend to look neat and tidy. The list

is divided into groups by growth habit and light requirements, but one will have to determine for himself the natives suitable for his region.

In the Right Direction

The New York Times reports in its weekly column "Book Notes," that Harper & Row now has a tree clause. If authors wish to contribute to have one tree planted for every tree used in the production of their book, the publisher will match the contribution. The publishing company doesn't plant the trees, but donates the cost of planting.

Big Tree Registry

The American Forestry Association (AFA) through its National Register of Big Trees recognizes, preserves, and protects "America's Living Landmarks." The Register currently lists more than 200 tree species and more than 850 champion trees. AFA is working to find champions for more than 100 species not on record. The 50-year-old Big Tree program, featured in *American Forests*, February 1990, contains three articles by VNPS member Nancy Hugo which refer to champions found in Virginia, "Nobility in the Underbrush," "Elm Hunt," and "The Tiniest Titan." Details on how to register a Big Tree and the National Registry of Champion Trees, the giants of each species in the U.S., many of which are natives, are part of this special issue.

Controversy as to how to determine which is the biggest tree of a species continues. The AFA formula uses a point total which combines height, circumference at breast height, and average crown spread. Others believe that volume should be used for comparisons as a tree's circumference at 4 1/2 feet can still be in the flaring root swell zone of the trunk in some species, such as giant sequoias, coast redwoods, and swamp cypress.

Kudzu, Climate and Kids

Kudzu was introduced into the U.S. at the 1876 Centennial Exposition in Philadelphia. In the 1930's, soil conservationists in the Southeast recommended it for stabilizing exposed soil. The soil may have stayed put, but the plant didn't. Now a common weed from East Texas to Florida and as far north as southeastern Pennsylvania, its northward spread is limited by low winter temperatures. Consider if the carbon dioxide in the atmosphere continues to increase, and if global warming occurs, then kudzu may move even farther

north. University of Georgia researchers have found one way to control the plant; four grazing goats can devour an acre of kudzu in two years.

Colorful Greens?

Golfers near the third hole at a public golf course in Winnetka, IL get a break from the acres and acres of green grass. A carefully planned meadow acts as a buffer zone between the course and adjacent homes. Park District Superintendent Richard Blust wanted to construct some prairie areas to recreate a native environment that had all but vanished, but first he had to convince the neighbors. When the seven homeowners whose property is adjacent to the area were sent a letter of intent, two responded enthusiastically, while the rest expressed fears about attracting rodents and insects. After allaying their fears, Blust started work on the meadow in the spring of 1986. By mid-summer, native grasses and forbs colored the plot. Now, the two-thirds-acre meadow blooms in successive waves of color throughout the summer. The neighbors compare the meadow to Monet's garden in Giverny and enjoy the variety of bees, butterflies, and birds it attracts. Even the deer and rabbits which nap in the meadow are welcome.

The Year in Review

In his yearly summary of endangered plant species listings, published in *Garden*, July 1990, Robert H. Mohlenbrock, distinguished professor of botany at Southern Illinois University, reports that placement of plants on the federal endangered species list continued "at a snail's pace." The title sums up 1989, "The Plants Struggle On, The Feds Fiddle Around." Nineteen plants were added and two were removed from the list, bringing the total to 216. One species from Virginia and West Virginia, shale barren rockcress, *Arabis serotina*, was listed in 1989. VNPS member Mohlenbrock notes a positive step in the continued listing of endemic plants from their dwindling habitat in the central Florida peninsula.

The pace of listing may change as several conservation groups plan to bring legal action against the Fish and Wildlife Service on behalf of dwindling populations of Hawaiian species in hopes that the endeavor will set a precedent for more rapid listing overall. On a lower note, because of insufficient budget and lobbying by unsympathetic groups, required recovery plans have been implemented for less than half of the listed plants and animals.

Registry Committee Ready

The new VNPS registry program took another step forward in June with an orientation meeting for chapter registrars. Held at The Nature Conservancy's Virginia office in Charlottesville, the half-day session introduced registrars to the details of the program and gave them an opportunity for discussion with members of the statewide VNPS registry committee, the Conservancy's Virginia staff, and the staffs of the two components of the Virginia Division of Natural Heritage (VDNH), the Natural Heritage Program and the Natural Areas Preserves Program. Major topics were the history and status of landowner registry in Virginia; identification and prioritization of sites; and the logistics of implementing the VNPS registry program.

All eight VNPS chapters have now appointed registrars, who will serve as local coordinators. The registry program is designed to encourage voluntary protection of outstanding native plant sites in Virginia through a continuing relationship with the landowner. It also confers recognition and expresses appreciation for the landowner's stewardship. At the same time, registry adds to the statewide bank of information on rare, vulnerable, or otherwise important native plant sites.

A central question for registrars and others who suggest sites is what lands may qualify for registry. Under the program's guidelines, plants on a registered site must be native to Virginia and have regional or state significance. The criteria for "significance" are broad--for example, among the best sites in the state for a species; disjunct from the species' major stands in Virginia; an unusual or exemplary habitat or plant community; unusual, persisting variation; or special potential to create public awareness. Land may be private or

public, even conservation land, and with certain exceptions should be mainly uncultivated.

The decision on a particular site will be made by the VNPS registry committee. Among its responsibilities is coordination with VDNH and the Conservancy. Both are developing registries, somewhat different in focus from the VNPS registry; in addition, either could pursue some form of protection that, unlike registry, is legally binding, such as a conservation easement or even acquisition as a preserve, should that be advisable. Limited resources dictate that both organizations concentrate on sites of highest priority, under a ranking system based on the relative rarity of particular elements on a site, the site's biodiversity, and the urgency of its needs for protection and management.

Information about each site recommended for the VNPS registry will be checked with the VDNH database on natural heritage elements, including plants, and their sites. The site may be referred for action to the Conservancy or VDNH if it is more appropriate to one of their registries or is among those with very high priority. Likewise, they will refer sites to the VNPS that are more appropriate for VNPS registry.

VNPS members who would like to assist in the registry program or suggest sites for consideration should confer with the appropriate chapter registrar: Paul James, Blue Ridge; Ann Regn, Jefferson; Gale Roberts, John Clayton; Jocelyn Alexander, Piedmont; Robert Wright, Pocahontas; Mary Pockman, Potowmack; Elaine Haug, Prince William; or Jacob Kagey, Shenandoah. VNPS Botany Chair Dorothy Bliss chairs the registry committee.

Mary Pockman
Potowmack Chapter

Chapter News

Display Redesigned

Prince William Chapter is preparing a new exhibit for their display board at the Prince William County Fair. The theme will be "The Natural Lawn and Alternatives to Chemical Lawn Care."

Field Guides and Field Work

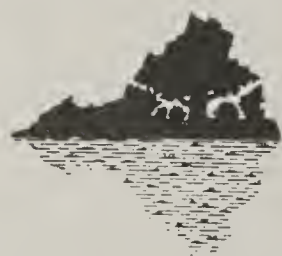
As part of their community education program, Blue Ridge Chapter has placed copies of *A Field Guide to Wildflowers* by Peterson and McKenny in 28 regional high school libraries.

Identification Education

Members of Piedmont Chapter and other interested VNPS members within driving distance brushed up their plant identification skills with Jean Everett, ecologist from Charleston, SC, during a special four-session course in field botany. Everett is in Virginia this summer teaching classes at Blandly Experimental Farm.

Book Sales Coordinator Needed

The VNPS is looking for an individual or individuals to serve as book sales coordinator. Responsibilities will include selecting publications for sale, determining the terms of sale, marketing the items through mail and on-site sales, keeping records of income and inventory, determining the annual budget needed, and reporting to the Board. Interested persons should contact Fund Raising Chair Patrick Baldwin, 430 Yale Drive, Hampton, VA 23666; (804) 838-2064.



Virginia Native Plant Society

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A publication of the **VIRGINIA NATIVE PLANT SOCIETY**
Conserving wild flowers and wild places

Virginia Wildflower of 1991 - Cardinal Flower

The Virginia Native Plant Society has selected cardinal flower, *Lobelia cardinalis*, as its Wildflower of the Year 1991.

Why did the Wildflower Committee choose to highlight this flower for 1991? Perhaps foremost is the hope that greater knowledge of this strikingly beautiful wildflower and its wetland habitat will aid VNPS in its message of conservation. Also, it blooms in late summer and early fall when our interest in wildflowers sometimes lags because of the preponderance of such difficult genera as goldenrods, asters and sunflowers. In addition, cardinal flower occurs in every county in Virginia, usually in wetlands, areas that are of special concern because of their vulnerability to loss by draining, filling, construction, etc. As an added bonus, for those interested in wildflower horticulture, the cardinal flower does well in a moist wildflower garden.

Look for interesting articles about cardinal flower in the *Bulletin* throughout 1991.

As we seek out haunts of this flower in the coming year, perhaps we will be rewarded with glimpses of a hummingbird darting in and out gathering nectar from its showy blossoms.

Dorothy C. Bliss
Botany Chair



On Herbs and Conservation

Over the past fifteen to twenty years there has been increasing worldwide interest in medicinal plants and medicinal plant research. The World Health Organization (WHO) estimates that as much as 80 percent of the world's population relies on traditional health care systems, especially herbal medicine, rather than modern Western medicine. For example, over 5000 plant species are used as medicine in China. As much as 60 percent of China's rural population relies on a 2000 year old medical system known as traditional Chinese medicine. The 1985 *Pharmacopeia of the People's Republic of China* lists 500 official plant-derived drugs.

What is less well-known to most Americans is the role of medicinal plants in developed countries. As many as 25 percent of all the prescription drugs sold in the U.S. contain at least one ingredient directly or indirectly derived from flowering plants. Over the past five years, the Japanese have held over 50 percent of new patents on plant-derived chemicals. In Germany, where herbal medicine (phytotherapy) is an accepted medical modality, well-defined pharmaceutical products derived from medicinal plants (phytopharmaceuticals) are widely available. For example, over 280 products which contain various species of the American genus *Echinacea* (purple coneflowers), source of the common garden perennial *Echinacea purpurea*, are registered for medicinal use. They are primarily used as non-specific stimulants to the immune system. Given the pending merger of the European Economic Community (EEC), all drugs laws will be "harmonized" in Western Europe. Since the German medicinal plant drug registration system is the most sophisticated in the Western world, it will serve as the model for development of new EEC regulations,

creating a herbal product market of 320 million consumers. Even today, it appears that more indigenous American plant species are used in European medicinal plant products than in American-produced herbal products.

Concurrent with the worldwide interest in medicinal plants comes growing concern for conservation. In a 1989 meeting of countries participating in CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), the Himalayan mayapple (*Podophyllum peltatum*), source of a modern anticancer drug, and the Indian snakeroot (*Rauvolfia serpentina*), source of the tranquilizer, reserpine, were added to CITES Appendix II listings. Species not allowed in international trade, such as elephant ivory, are placed in Appendix I. Appendix II listings, such as American ginseng (*Panax quinquefolius*), and now *Rauvolfia serpentina* and Himalayan mayapple, are controlled and monitored in trade, "in order to avoid utilization incompatible with their survival."

In March of 1978, a meeting jointly sponsored by WHO, the International Union for the Conservation of Nature and Natural Resources (IUCN), and the World Wildlife Fund (WWF), was held in Chiang Mai, Thailand, to deal with medicinal plant conservation issues. A result of the meeting was The Chiang Mai Declaration, "Saving Lives by Saving Plants," which recognized "the urgent need for international cooperation and coordination to establish programmes for conservation of medicinal plants to ensure that adequate quantities are available for future generations."

In May of 1988, the Forty-first World Health Assembly endorsed this declaration. According to WHO's Traditional Medicine Programme Manager, Dr. O. Akerele, "This
(continued on page 5)

FROM THE PRESIDENT

Enthusiasm runs high in the VNPS as the end of 1990 approaches. The Registry program has been initiated with the designated part of the G. Richard Thompson Wildlife Management Area. Over 100 Society members got together at the 1990 annual meeting and had a chance to tour the site. The Society is seeing the beginning of a new chapter in the South Hampton Roads area. Already they have a working steering committee with John Hodgson as chairman and Becky White as VNPS representative. Their organizational meeting, held in Virginia Beach, brought together current VNPS members with enthusiastic potential members. The eight VNPS chapters have completed elections and planned their 1991 programs. The Wildflower of the Year Committee, headed by Botany Chair Dorothy Bliss, has chosen cardinal flower, *Lobelia cardinalis*, as the Society's wildflower for 1991.

Virginia's native plants continue to attract attention into late autumn: fringed gentian in September; multitudes of asters into October; lycopodium in November's bare landscape; and fruits, berries and pods of all sorts, containing seeds for next season. Trees with their flaming colors excite us, while they carry on their practical work of soil retention and building, and water and air filtration.

Several years ago, wildflower enthusiasts in the Virginia Beach area held a wildflower symposium organized by Lee Moomaw and other South Hampton Roads steering committee members. At that symposium, Mac Rawls of the Virginia Marine Science Museum posed the question of why shore residents would be concerned with water and plant issues of northern and northwestern Virginia. He reminded us that stream, creek, and river water beginning to the North eventually reaches the Chesapeake Bay and finally the shore of the Atlantic. Along the way, pollutants enter the water. The Chesapeake Bay Preservation Act put controls on pollution sources. In the Tidewater area, 46 cities and counties, and 43 towns were required to meet the deadline designating Resource Protection Areas and Resource Management Areas by September 20, 1990. Seventeen localities met the deadline and 26 are expected to adopt ordinances by October 31, 1990, according to the Alliance for the Chesapeake Bay.

Resource Protection Areas and Resource Management Areas are terms which refer to "vegetative zones" 100 feet wide used to filter pollutants from stream and river water before it enters the Bay, and native plants are in these "vegetative zones." It is to the advantage of all Virginians to have strong water and air quality regulations enacted for both environmental and economic reasons. Governor Douglas

Wilder and Secretary of Natural Resources Elizabeth Haskell repeatedly urge for a balance of these perspectives.

In Highland County, Virginia, the South Branch of the Potomac River crosses the West Virginia state line as clear and sparkling water. Sugar maple colors reflect in the water along with blue sky and cumulus clouds. Water rushes over rocks. Fish can be seen clearly. There is no cloudiness, no scum, no trash, just clear water delivered by Earth to sustain life. The responsibility is ours to deliver clean potable water from the first community to the next, all the way to the Bay.

In supporting habitat conservation, we assure that Virginia native plants will be working for us. Roots will filter water pollutants. Leaves will filter air pollutants. Vegetation will control soil erosion. Virginia native plants are working for you. You, through the Virginia Native Plant Society, can work for their survival.

Nicky Staunton

Thanks for the Memories

Before a lovely dinner, the annual business meeting, and the presentations, VNPS members networked and made bids during the social hour and silent auction. The auction brought in nearly \$1300 for the Society's programs. Thank you to all who participated by donating and bidding on items.

Special thanks go to Piedmont Chapter members, especially Mary Ann Gibbons, who attended to all the details, making the 1990 annual meeting a great event, right down to the weather!

We also wish to express our appreciation to speakers John Gottschalk and Hal Horwitz. Your words and images were enjoyable and thought provoking.

The Editor's Notes

Late Newsletters

The topic of late arrival of the *Bulletin* has been raised several times at VNPS Board meetings. I have called my local postmaster to discuss this issue and have received word from other nonprofit organizations on this topic.

Late arrival of newsletters sent by bulk mail plagues many organizations. Usually the delay is greatest at the site from which the mail is posted although bulk mail should move through a station in no more than two days. If there are delays at other mail sorting stations, further tardiness occurs.

The *Bulletin* is posted in the middle of the month it is published (i.e., mid-November.) It should get to in-state members within six to eight business days; due to shipping routes, out-of-state members may get delivery several days later depending on location. If you fail to receive your newsletter by the first of the month following the month of issue, contact the Customer Service Director in your postal delivery area to file a complaint. If you do not receive your newsletter during the next week, notify me at the address in the box to the left. I will gladly send you a replacement copy via first class mail.

Your Help Appreciated

I have received many favorable comments concerning the *Bulletin* since becoming editor. Many times the compliments have concerned the broad range of topics and news touched upon in our newsletter. I cannot take all the credit for improvements to the *Bulletin*. Much of the credit goes to you, the Society members who have sent me clippings, letters and articles over the past nine months. Keep up the good work. You make my job easier and our *Bulletin* better.

Virginia Nathan

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Nicky Staunton, President
Virginia Klara Nathan, Editor
Barbara Stewart, Artist

Original material contained in the *Bulletin* may be reprinted, provided credit is given to the author, if named. Readers are invited to send letters, news items, or original articles for the editor's consideration. They should be typed (double spaced, please) or sent as a text file on a 5 1/4 inch floppy disk to the Editor at Route 3 Box 119-F, Floyd, VA 24091.
The deadline for the next issue is February 10.

Recaps of the 1990 Annual Meeting

Gottschalk Encourages Extra Efforts

John Gottschalk, the featured speaker at the VNPS annual meeting, emphasized the importance of lay people's contributions to conservation. As an example of "constructive collaboration" between lay people and professionals, he cited the agreement between VNPS and the Virginia Department of Game and Inland Fisheries (DGIF) to protect sensitive habitats at the Thompson Wildlife Management Area.

A former Director of the U.S. Fish and Wildlife Service, Gottschalk is familiar with both wildlife management and conservation of natural areas. He was very helpful in our efforts to negotiate the agreement with DGIF. As Conservation Chair of the Audubon Naturalist Society, an environmental organization active in the Washington, DC area, he has been active in many conservation causes throughout Virginia.

Gottschalk encouraged members of the VNPS to get involved in conservation matters and to work with other organizations to achieve our goals. He emphasized the leading role that lay people played in the early years of the conservation movement in the United States. He explained that even now most governmental conservation efforts are directed toward harvestable species, and that non-game species, particularly plants, have few champions in "officialdom." Ringing applause greeted his statement that "there is a larger responsibility in managing for wildlife than just bringing home something that you got with a gun or a bow."

Gottschalk urged VNPS members to continue pressing for plant and habitat protection. He encouraged us to "be willing to make that extra effort that will help preserve some special bit of habitat, to be willing to serve on park boards, and to join with other conservation-oriented people across the country to support ... organizations and programs." He cautioned, however, that "Changes in agency philosophy...cannot alone accomplish what must be done for nature protection. There must continue to be strong involvement by citizens...to achieve goals that may lie outside the bounds of conventional conservation programs."

Cris Fleming
Education Chair

Member and Guides Enjoy Field Trips

After a morning of rain, the sun broke through for a pleasant, breezy afternoon of field trips preceding the 1990 annual meeting. Almost one hundred VNPS members took part. In smaller groups, all visited the G. Richard Thompson Wildlife Management Area, the first VNPS registry site. In addition, they toured Archwood meadow or Virginia Natives, VNPS founder Mary Painter's nursery.

The Thompson area, best known for masses of trillium in spring, displayed many fall flowers and fruits along the roadsides. Visitors could also see some dilemmas of multiple-use management. Some roadside banks rich in native plants are being taken over by invasive aliens as a consequence of road widening for timber trucks. One stretch had been mowed in August, just when lateblooming plants were emerging, in the interest of clean edges and good visibility for hunting season. VNPS and the state's wildlife managers will be seeking ways to resolve questions such as these as they work together under the agreement signed last spring.

Archwood is a privately-owned wet meadow with exceptionally diverse summer and fall wildflowers. In late September it was dominated by six-foot goldenrods, asters, Joe-Pye weeds, and other fall flowers. Among other conspicuous plants were climbing false buckwheat, one-sided bur cucumber, and virgin's bower. Swamp lousewort was still in bloom. Sharp-eyed observers spotted vivid crimson swamp smartweed and the bright red fruits of green dragon. Removing the sticky fruits of *Desmodium* species challenged walkers who did not want to be responsible for introducing beggar's lice elsewhere.

The plants on display at Virginia Natives, all propagated at the nursery, gave wildflower gardeners a boost in planning for late-season garden interest. Owner Mary Painter showed visitors many species she considers outstanding for fall color. In discussing keys to success with native perennials, she stressed choosing hardy varieties that thrive under garden conditions, and improving the soil for optimum growth.

Field trip leaders were Jocelyn Alexander, Jean Everett, Cris Fleming, Gary Fleming, Mary Painter, and Chris Sacchi. Their "work" was made a pleasure, one of them noted, by the enthusiasm and knowledgeable interest of field trip participants.

Plaque and Photo Presented

On behalf of all Society members, Piedmont Chapter Conservation Chair Jocelyn Alexander made a special presentation to DGIF Chief of Division of Wildlife Robert Duncan in appreciation for the DGIF's cooperation in helping to make the trillium area of the Thompson a VNPS Registry site. A walnut plaque engraved with the VNPS logo and a framed photograph of the trilliums in bloom taken by VNPS member Gary Fleming was given to the DGIF office in hopes that the beauty of the area will never be forgotten and always be preserved.

Virginia Native Plant Society FY 1991 Budget

INCOME

Membership dues	\$7500
Unsolicited donations	\$ 500
Fund raising	
Donations	\$2300
Sales	\$2200
Annual mtg. fees	\$2000
Interest income	\$1000
Other income	\$ 100

INCOME SUB TOTAL	\$15600
Transfer from surplus	\$2929

INCOME TOTAL	\$18529
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EXPENDITURES

Administration	\$2965
Insurance	\$ 800
Membership	\$1740
Publicity	\$ 495
Publications	\$4455
Fund raising	\$1069
Chapter development	\$ 500
Education	\$ 500
Conservation	\$ 770
Botany	\$ 250
Horticulture	\$ 285
Annual meeting	\$2600
Registry program	\$1200
Wildflower Celebration	\$ 100
Wildflower of the Year	\$ 800

EXPENDITURE TOTAL	\$18529
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[End FY 1990 Estimated Bank Balance
(i.e., Surplus) \$15000]

Note: Members should remember that the proposed allocations do not wholly reflect current VNPS priorities, since the Society's budget can't show volunteers' time or chapter expenditures.

For Wildflower Gardeners

"Plants of Promise" cited by nurserymen and native plant enthusiasts at July's Cullowhee, NC, conference on "Landscaping with Native Plants" and predicted to be "hot" in upcoming years:

A variety of vernal witchhazel, *Hamamelis vernalis*, with burgandy colored fall foliage and extremely fragrant flowers in late winter.

A dwarf summersweet, *Clethra alnifolia* 'Hummingbird.'

Rudbeckia maxima, up to 8 feet tall with flowers 5 inches across.

Calycanthus florida 'Edith Wilder,' an especially fragrant sweet shrub discovered in an old garden.

Available From VCES

Three new publications from the Virginia Cooperative Extension Service:

The Virginia Gardener 1991 Recycling Calendar covers topics such as "Free Materials for Mulching and Amending" and "Leftovers Aid Wildlife." Printed on high-quality recycled paper, this calendar can help gardeners become more environmentally responsible. \$6.00 postpaid.

Notes from The Virginia Gardener is a spiral-bound book of gardening tips for each month. It makes a useful addition to your library or a beautiful gift for a fellow gardener. \$7.00 postpaid.

The Virginia Gardener Handbook is a 500-page text based on the *Virginia Master Gardener Handbook*. It is considered by VCES to be the definitive reference for gardening in Virginia. \$35.00 postpaid.

Send order with check payable to Treasurer, Virginia Tech, to *The Virginia Gardener*, 407 Saunders Hall, Virginia Tech, Blacksburg, VA 24061-0327.

Available From AHS

The American Horticultural Society (AHS) has published its first **Garden Book Catalog**. The catalog contains more than 700 titles and covers every aspect of gardens, gardening and horticulture, including native plants and natural gardens. Also available is a list of dealers in hard-to-find titles. AHS is making these books available at a discounted rate. To obtain a free catalog and the booksellers list, write to AHS, 7931 East Boulevard Drive, Dept. PR-490, Alexandria, VA 22308 or call (703) 768-5700 in Virginia; outside of Virginia 1-800-777-7931.

Also available from AHS is a 1991 calendar entitled "**Native Plants for All Seasons**" in which AHS gives tips on how to put wild plants to work in gardens. The 10 3/8 by 14-inch calendar

VIRGINIA'S RAREST PLANTS

Isotria medeoloides, Small Whorled Pogonia

While traversing Virginia's woodlands in spring you may happen upon a small, whorled-leaved herb. Examine it closely. Is the stem pubescent? Then you probably are looking at a young Indian cucumber root, *Medeola virginiana*. If the plant has a hairless, stout stem, then you probably have an orchid species in the genus *Isotria*. There are two species you might find. The first is the common *Isotria verticillata*, while the second is the rare *I. medeoloides*. Often these two occur together. If the stem and sepals are grayish green (as opposed to purplish), the flower stalk is very short or absent, and the sepals are less than 1 inch long (as opposed to 1.25 to 2.5 inches), then you have found the rare, small whorled pogonia, *Isotria medeoloides*.

Should you find *Isotria medeoloides*, you are in select company. Few sites are known from the Commonwealth; eight stations have been found in all. Two of these are on the piedmont in Appomattox and Buckingham counties, while the remaining sites are from the coastal plain. While plants in the piedmont locations have not been seen recently, the coastal plain populations are extant and being studied by VNPS member Donna M.E. Ware of the College of William and Mary.

The research of Ware and others may unlock the mystery as to why



Isotria medeoloides
Illustrated by Megan G. Rollins

Isotria medeoloides is so rare. Most of Virginia's rarest species are uncommon for one of two reasons: either their habitat is rare or their range is restricted. In contrast, the woodland habitat of the small whorled pogonia is ubiquitous and its range covers most of eastern North America.

With fewer than 100 sites known for the species, it is clear that *Isotria medeoloides* requires protection. The species is threatened by habitat loss and, as is true with many orchid species, illegal collection.

The U.S. Fish and Wildlife Service and the Virginia Department of Agriculture and Consumer Services, regulatory agencies charged with the protection of endangered plant species, have listed the species as Federal and State Endangered. Efforts are also under way by The Nature Conservancy and the Department of Conservation and Recreation's Division of Natural Heritage to protect the species' extant locations. Partnerships among federal, state, local, and private conservation organizations are effective tools for protecting our rarest species. The ultimate goal, of course, is to protect biodiversity for future generations.

J. Christopher Ludwig and
Nancy Van Alstine
Virginia Division of Natural Heritage

features 12 color photographs by Ken Druse. Price is \$8.50 for AHS members, \$9.95 for non-members, plus \$1.50 handling fee and 4 1/2% sales tax. To order, send check payable to AHS/Calendar to AHS/Calendar, 7931 E. Boulevard Drive, Alexandria, VA 22308.

Available From NEWFS

To encourage gardeners to propagate more native plants from seeds and spores, the New England Wild Flower Society (NEWFS) is offering more than 175 varieties of wild flowers and ferns in its **1991 Seed List**. To request a seed list, send \$1.00 and a self-addressed, business-sized envelope stamped with \$.45 postage to Seeds, New England Wild Flower Society,

Garden in the Woods, Hemenway Road, Framingham, MA 01701. Requests will be filled in the order received, with sales closing on March 15.

Also new from NEWFS, is a two-page brochure analyzing commercially available meadow seed mixes. The pamphlet notes the number of plant species in each of 49 seed mixes and gives the percentage of plants in each mix that are native to the northeastern U.S. It is intended to aid northeastern gardeners choose seed mixes appropriate for their area. To receive the booklet, send your request with \$1.35 to NEWFS, Dept. NS, Hemenway Road, Framingham, MA 01701.

Nancy Arrington
Horticulture Coordinator

Wildflower Confusion?

Wildflower is the name of the quarterly magazine of North America's wild flora published by the Canadian Wildflower Society (CWS). It is also the name of the journal of the National Wildflower Research Center (NWRC) in Austin, TX, as well as the name of their semi-monthly newsletter.

In August, chapter presidents received a letter from the CWS editor soliciting articles and offering members of native plant societies a reduced subscription rate for *Wildflower* magazine. The NWRC is also accepting memberships and reviewing manuscripts dealing with the conservation, propagation, establishment, and management of native plants.

If you are interested in joining CWS and receiving *Wildflower* magazine, send a check for \$15 before Dec. 30, 1990 to *Wildflower* Subscriptions, Canadian Wildflower Society, 75 Ternhill Crescent, North York, Ontario, Canada, M3C 2E4.

The NWRC *Wildflower* journal and newsletter are sent to supporters who contribute a minimum of \$25. Write the National Wildflower Research Center at 2600 FM 973 North, Austin, TX 78725.

Coming Events

Landscape Design Symposium

The 5th Lahr Fellowship Symposium, "Native Plants: Tradition and Innovation in American Landscape Design" will be presented at the U.S. National Arboretum on March 9, 1991. The impressive line-up of speakers includes plant propagator Bill Brumback from the New England Wild Flower Society; Tom Buchter from Winterthur Gardens; Leslie Sauer of the landscape architecture firm Andropogon Associates; and landscape designer and botanist, VNPS member Cole Burrell. For a brochure and application call (202) 475-4857 or write to U.S. National Arboretum, Attn: Joan Feely, 3501 New York Ave. NE, Washington, DC 20002.

Landscaping Conferences

For those who like to plan ahead: The 8th annual "Conference on Landscaping with Native Plants" will be held July 25-27, 1991, at Western Carolina University in Cullowhee, NC.

Also the first northeastern region "Conference on Landscaping with Native Plants," patterned after the popular Cullowhee conference, has been scheduled for August 15-17, 1991, at Millersville State University in Millersville, PA. Watch for registration details on these events in an upcoming *Bulletin*.

ENPA Report

A wide range of plant conservation issues came before the third annual meeting of the Eastern Native Plant Alliance (ENPA), held at The Holden Arboretum, near Cleveland, August 17-19. Among them were collection pressures from the herbal/medicinal trade (see Steven Foster's article on page 1); emerging threats to native plant habitats, such as invasive plants and heavy browsing by deer; possible attempts to weaken the federal Endangered Species Act, up for reauthorization; and effective ways to get the message of plant conservation to the general public.

ENPA is a network of organizations that promote and demonstrate native plant conservation in the eastern U.S. and southeastern Canada. It disseminates information, and, in some cases, initiates action through its constituent organizations, which include such diverse groups as native plant societies and public agencies, propagating nurseries and arboreta. *Bulletin* readers are familiar with ENPA as the leader of last winter's campaign to stop misleading use of the term "nursery grown."

Those who attended the meeting heard several formal presentations and, in smaller concurrent sessions, discussed topics of special interest. Two of the latter were led by VNPS members. Faith Campbell headed a session on lobbying techniques, and Jocelyn Alexander explored conservation on private land, using the VNPS registry as one example. Other groups caught up with current knowledge about native plant propagation and examined ways to develop ENPA as a clearinghouse.

Working groups of participants were formed to develop specific ways of addressing ENPA's concerns. Their assignments include providing information about habitat issues for constituent organizations to use in public education; working with nurseries to make propagated plants more widely available; and developing local land-use strategies for native plant conservation.

Board member Mary Pockman represented VNPS at the meeting. She is also serving as coordinator of the ENPA steering committee.

VNPS Winter Workshop

Reserve Saturday, March 16, for the 1991 VNPS Winter Workshop. It will be held at the University of Richmond, in Richmond, VA. Watch the mail for details about this event as the date approaches.

On Herbs and Conservation

(continued from page 1)

Declaration places medicinal plants, their rational and sustainable use, and their conservation, firmly in the arena of public health policy and concerns."



Purple coneflower

In the United States approximately 140 species of wild-harvested plants enter world botanical markets. About 60 species, many from the eastern deciduous forest, are traded in American health and natural food markets. With the exception of American ginseng (*Panax quinquefolius*), purple coneflower (*Echinacea purpurea*), and a handful of other species, few American medicinal plants are cultivated in appreciable quantities, and virtually nothing is known about how many plants of any given species can be taken each year as a sustainable yield. There are no regulations on the taking of plants, as there are for "harvesting" wild animals. Last year, the U.S. exported 2,359,510 pounds of cultivated ginseng root, as well as 203,440 pounds of wild-harvested root. Some have asked, "Why is it that there is not a legal season for ginseng harvest, as well as the issuance of licences for diggers, just as there is for hunting animals?"

The time has come for the development of scientific data on what constitutes sustainable yields of wild plant harvests (be it for nursery or medicinal use), or to develop propagated, cultivated supplies before once common plants join the fate of the American bison, or worse, yet the passenger pigeon.

Steven Foster

Steven Foster, an Arkansas-based consultant, spoke on collection pressures from the herbal trade at the 1990 ENPA meeting. His special interests include medical botany and conservation issues relative to wild harvested medicinal plants.

John Clayton: Virginia Botanist

Virginia botanist John Clayton, for whom spring beauty, Virginia Wildflower of the Year 1990, is named, was born near London in 1694. His grandfather, Sir John Clayton was an original Fellow of the Royal Society, a group of amateur and professional scientists, founded to promote knowledge. Members would eventually include Isaac Newton, Robert Boyle, Joseph Lister, Christopher Wren, and John Ray. Clayton men were educated at Cambridge and trained in the professions of law and medicine.

Early in the 18th century, without his family, John's father emigrated to Virginia where he served as Attorney General of the Colony. Young John was in Virginia with the rest of the family by 1715, probably having completed his education in England. The Claytons lived near the colonial Capitol in Williamsburg, Virginia.

In 1720, John Clayton was appointed Clerk of Gloucester Court, a position he held for life. As Clerk of the Court, he was responsible for keeping all records of county court proceedings, land surveys, deeds, wills, and other legal documents. The second courthouse where John Clayton worked still stands in Gloucester, Virginia, as does Ware Church on nearby Route 17, where he married Elizabeth Whiting in 1723.

Although Clayton's homesite cannot be identified conclusively, tax records show the family owned 450 acres in Gloucester County. Orders to his factor in England show that the family lived well, exchanging their hogsheads of Virginia tobacco for fine fabrics, wine, and china. His position as clerk allowed Clayton to appoint a deputy to do much of the record keeping, giving him time to manage his plantation and attend to his botanical studies.

It is impossible to assess Clayton's botanical work without describing the larger scientific community of Europe and America. Clayton corresponded with John Bartram and Benjamin Franklin of Philadelphia. Dr. John Mitchell, whose name we see in partridge berry, *Mitchella repens*, lived in nearby Urbanna. The family's social life led to friendship with William Byrd II, who was a member of the Royal Society and had introduced Clayton's father to Mark Catesby.

The Clayton-Catesby connection led to Catesby's suggestion that Clayton send specimens to the botanist Gronovius, in Leiden, Netherlands, for further study and classification. Catesby

was working on his own natural history and was also receiving specimens from Clayton. At the same time Clayton was sending his collections and descriptions to Gronovius, the Swedish botanist Linnaeus was studying and developing his *System Natura* in Amsterdam. Linnaeus worked closely with Gronovius identifying and classifying Clayton's specimens. In appreciation of their interest and assistance, Clayton compiled and sent Gronovius "A Catalog of Plants, Fruits, and Trees Native to Virginia" for his library. Gronovius proceeded to publish this catalog, unknown to Clayton, under the title *Flora Virginica* in 1739. Gronovius credits Clayton fully in the introduction, explaining his hasty publication before the work be destroyed or lost.

Although Clayton used John Ray's system of classification initially, he was soon convinced of the superiority of the new Linnaean system and used it in later studies. Clayton wrote to Linnaeus thirty years after his arrival in Virginia, apologizing, "Pardon my inexperience in the use of the Latin language, since I have lived so long in these rich regions without practice and without conversation with learned men that I have almost forgotten the learning of my youth, such learning as you believe spontaneous." Linnaeus rewarded Clayton for important contributions to his own work by giving Clayton the ultimate immortality of a genus named in his honor--*Claytonia*.

Quaker wool merchant and amateur botanist Peter Collinson of London acted as catalyst for the international group of plantsmen. He encouraged their work, introducing scientists by mail, and continually fostered their interests by letters and loans. Catesby's natural history was completed with financial help from Collinson.

American scientists organized their own societies. The American Philosophical Society, begun by Franklin in 1743, was to be the Colonies' counterpart of the Royal Society. Franklin complained to Collinson a few years later, "The Members of our Society here are very idle Gentlemen: they will take no Pains." Another correspondent summed it up, "As to your Philosophical Society, I can say nothing but that as it is certain that some have been too lazy, so others may have been too officious, which makes the prudent afraid of them."

Clayton met Franklin when he was in Williamsburg on post office business in 1756. Franklin was in a unique

position to subsidize scientific communications; he offered free postage to his friends, including Clayton. By sending mail under a cover addressed to Franklin, postage (which was paid by the recipient of the mail) could be avoided.

Clayton spent many hours in the field, travelling north to Canada and as far west as Augusta County, Virginia, exploring and collecting plants for himself and his many correspondents. He travelled west to Orange County, Virginia, on a botany trip in 1772, the same year he ordered eyeglasses "to suit a person 77 years old." Clayton was honored in Virginia when he was elected President of the new Philosophical Society organized in 1773 "for the Advancement of Useful Knowledge in this Colony."

Clayton died in 1774, a recognized contributing member of the international natural history circle and a part of the scientific community of which we claim continuity.

Cynthia Long
John Clayton Chapter



I first saw spring beauty blooming profusely, on ground covered with dung from the heron nests perched in lofty loblolly pines near Bourke's Mill pond, which was very likely a part of John Clayton's homesite in Gloucester County. Through these field trips with Donna Ware, we eventually formed our chapter of the Virginia Native Plant Society. I like to think that John Clayton was our inspiration.

C.L.

FROM NEAR AND FAR

Of Milk and Poison

Ecologist David Cameron Duffy ties together some history and botany of the Appalachians in "Land of Milk and Poison," *Natural History*, July 1990. The "milk and poison" refers to the occurrence of milk sickness, a strange and often fatal illness which affected early pioneers and seemed to be caused by drinking milk. The most peculiar symptom was an odor like turpentine on the breath.

Settlers recognized that milk sickness occurred in areas where cattle suffered from a deadly disease called trembles, which some noted was related to grazing on understory plants in rich woodlands. Infected cattle also had a pungent breath and shivered uncontrollably. Persons who ate meat or drank milk from affected cows frequently developed milk sickness.

A large number of plant species were suspected as cause for both diseases, but attention centered on poison ivy and white snakeroot, *Eupatorium rugosum*. After her experiments confirmed that white snakeroot was responsible for trembles, frontier "doctor" Anna Pierce started a program for eradication of the plant. Later research uncovered that tremetol, an alcohol in snakeroot which is converted into toxic substances by the body's metabolic processes, produced trembles and milk sickness. The unusual symptom of a sickly sweet breath is a product of acidosis, or excessive acidity in the body, which comes from a buildup of lactic acid in the muscles.

With the improvement of pastures, the clearing of woodlots, and mixing of

milk from many cows in commercial dairy operations, the risk of milk sickness has almost disappeared, but white snakeroot continues to be a plant neither man nor beast should nibble.

Good for Business

While many builders see environmental protection as an obstacle to their work, one Chicago-area developer feels it is good for business. Landmark Homes of Long Grove, Illinois, makes environmental preservation a strong point in its sales strategy. In each of its developments, this company sets aside acres of forest, wetland and prairie. These preserves are given long-term protection.

The Future is Now

As landfills throughout the country fill up and sites for new landfills become difficult to find, waste disposal officials are looking for ways to make landfills last longer. Organic yard wastes comprise an estimated 15 to 20 percent of the wastes going into landfills. Besides wasting space, a potentially valuable resource is wasted.

Illinois state law now prohibits disposal of organic landscape wastes in landfills. The Chicago Botanical Garden continually needs compost and wood chips. For those who want to discard yard wastes instead of composting them on site, at least one disposal company in the area is making separate pickups of organic yard wastes collected in biodegradable paper bags. Much of the material goes to the Chicago Botanical Garden; surplus goes to compost sites.

Living Abroad

The August 1st edition of the *Journal Messenger* from Manassas, VA, gives a report on one of the U.S. government's homes for wayward plants, a cluster of government-run greenhouses at the U.S. Botanic Garden's Poplar Point Nursery. This and fifteen other plant rescue stations could be called the Noah's arks of the plant world as they hold an array of some of the most and least wanted rare plants. At these locations, rare and exotic plants confiscated by U.S. customs officials for violations of the CITES accord, which forbids trafficking in endangered species, are grown and studied. Included in the Washington, D.C. collection is a sneezeweed believed to be the last domestic specimen of a species Virginia spent thirty years trying to eradicate.

Sooner or Later

A U.S. Forest Service sign gives the following information on how long some litter lasts in the environment:

Plastic film canister	20 to 30 years
Aluminum cans & tabs	80 to 100 years
Glass bottles	1,000,000 years
Plastic bags	10 to 20 years
Plastic coated paper	5 years
Nylon fabric	30 to 40 years
Rubber boot sole	50 to 80 years
Leather	up to 50 years
Wool socks	1 to 5 years
Cigarette butts	1 to 5 years
Orange & banana peels	2 to 5 weeks

(*Borealis*, Newsletter of the Alaska Native Plant Society)

See the address label for your membership's expiration date.

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___ Check here if you do not wish to be listed in a chapter directory.

State Soil Survey

To assess the total area of wetlands in Virginia, the federal Soil Conservation Service (SCS) is conducting a county-by-county survey of soil types. Using the soil type inventory and aerial photographs from the Agricultural Stabilization and Conservation Service, the SCS determines where wetlands are present. The surveys should be completed by December 31.

Stream Surveillance

If streams in Shenandoah National Park begin to be affected by acid rain deposits, fire, human activities, or just about anything else, park officials will know about it, thanks to a monitoring system developed by two researchers from Virginia Tech's Entomology Department. The scientists developed a system for obtaining information and methods for sampling streams, which covers a wide array of environmental characteristics, with aquatic insects as the primary indicators of environmental health.

It's Renewal Time

It is time for many of you to renew your membership in VNPS. Please check the upper right of your address label, where your expiration date is shown. If there is a colored dot on your label, it means that your renewal is past due or will be due within the next couple of months. Please renew promptly so you will not miss the next issue of the *Bulletin*. Also, please consider adding a contribution of just a dollar or two to your dues. (More is welcome, of course.) Your Society is becoming better known as a conservation organization. It can accomplish even more with increased support from its members!

And Gift Giving Time

Consider giving VNPS memberships as Christmas presents. Gift memberships support the Society and increase its numbers and influence. They also give you one more common interest with your friends.

Please make checks for renewals and gift memberships payable to VNPS. Send your check with the renewal form and/or names and addresses of gift memberships to:

Phoebe H. White
Membership Chair, VNPS
Route 1, Box 381
Delaplane, VA 22025

Chapter News

Propagation Programs

Jefferson Chapter conducted a number of programs this fall to sharpen their propagation skills. Among them was a walk at Wintergreen to collect seed for their propagation beds and a talk on propagating carnivorous plants.

Educational Efforts

Shenandoah Chapter is developing an educational program for elementary school children, featuring some easily recognized wildflowers. The presentation traces the origin of the plants' names and emphasizes their places in ecological systems.

Help in Highway and Home Plantings

Potomack Chapter keeps visible in autumn by holding a fall plant sale in conjunction with Green Spring Farm Park's annual Mum Festival and Craft Fair. "Late bloomers" and the concept of "fall is for planting" are emphasized.

Starting this fall, John Muse, landscape specialist with the Virginia Department of Transportation (VDOT,) will be working with the Potomack Chapter and the McLean Citizens Association to establish wildflower plantings along interstate highways and secondary roads in Northern Virginia. Chapter member Ed Mainland is actively working on a program with local VDOT officials to help establish least cost natural landscaping, including changes in mowing schedules. He presented a program on the topic at the Chapter's annual meeting.

Field Work and Financial Support

Pocahontas Chapter members have been conducting ongoing field investigations in their chapter area. In a recent outing to the remnant pine barrens in Chesterfield County, several very rare plants were spied. Chapter efforts support the Virginia Natural Heritage Program and The Nature Conservancy, which are looking into acquiring the area as a preserve.

The chapter continues its membership in the Lewis Ginter Botanical Garden where Patrick O'Hara's porcelain sculptures of Virginia wildflowers are exhibited.

Power in the Printed Word

To attract new members and bring the chapter to the attention of area residents, Prince William announces its meetings in four regional newspapers.

The chapter has also developed and reissued some handouts. The *Flora of Prince William County* was updated and reprinted; a list of guidelines for lawns and turf alternatives was compiled; and a wordsearch game for children was devised for use with their lawn alternatives display.



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